JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY

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PAGE

Royal Patronage 305

The Secretary's Page 306

Wisley in September 307

The Smaller Garden. II. Branklyn Garden, Perth. By Dorothy G. Renton. *Illustrated* 309

The Northern Horticultural Society. By C. H. Grey. *Illustrated* 314

Flower Forcing for Early Market on a Dutch Nursery. By F. H. Allen 320

The Iris Family: Evansia Section (Crested Iris). By Charles Bedbrook 333

Notes from Fellows:
A New Fruit-growing Hazard. By Edward Hyams . . 335

Wisley Trials, 1952:
Narcissi 336
Polyanthus 340

Book Notes 342

Proceedings xcvii

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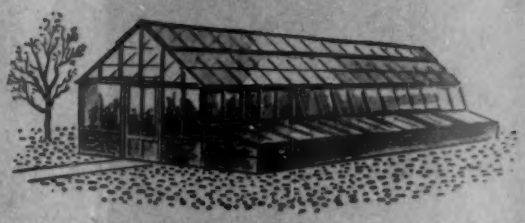

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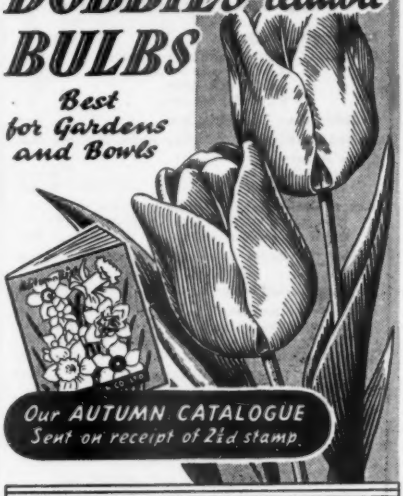

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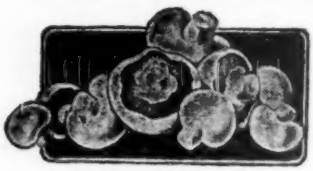

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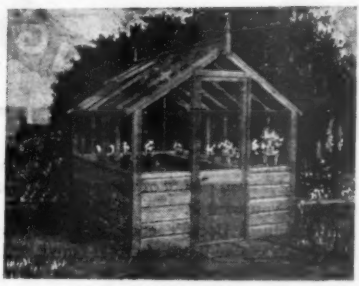

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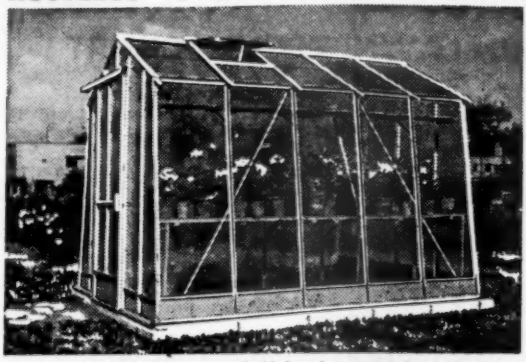

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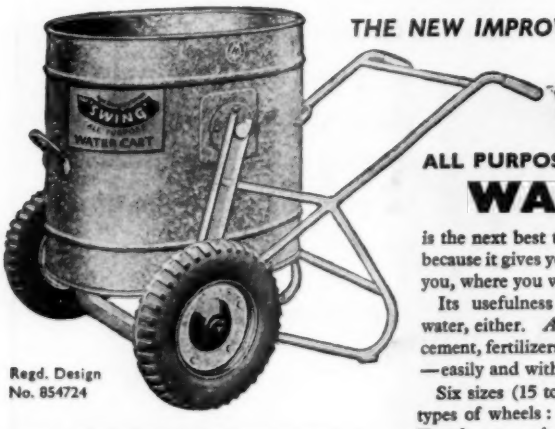

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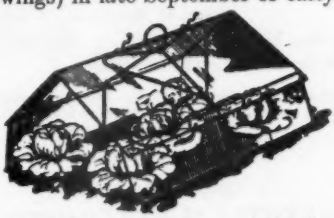

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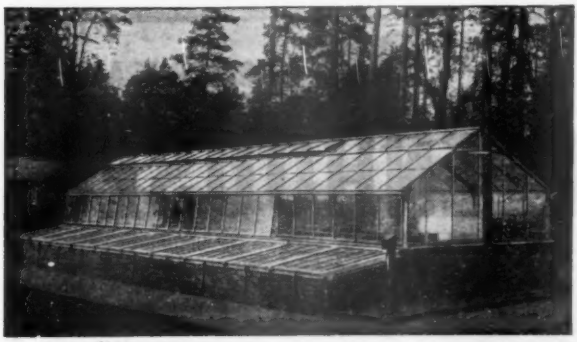

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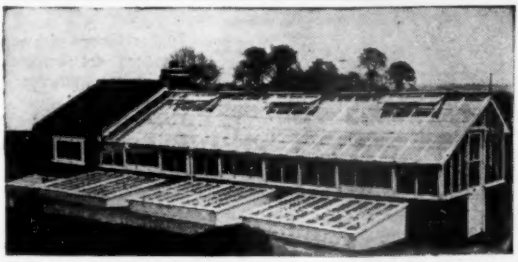

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Extracts from
THE PROCEEDINGS OF
THE ROYAL HORTICULTURAL SOCIETY

GENERAL MEETINGS

JUNE 10, 1952

SCIENTIFIC COMMITTEE—*continued*

A *Delphinium* exhibited to the Joint Delphinium Committee by Mr. T. James, 5 North Road, St. John's Wood, N.W. 8, was referred to the Scientific Committee for naming. The Committee agreed that it was a form of *D. elatum*, a polymorphous and complex species distributed from the Pyrenees to Mongolia.

A *Marigold* showing the "Hen and Chicken" phenomenon familiar in the Daisy was submitted by Miss M. Fairhall, 42 Broadway, Westminster, S.W. 1. Six perfect heads of flowers each on a long stalk had developed from buds in the axils of the involucral bracts of the original head.

Periclinal Chimaera.—The Hon. Lewis Palmer, Headbourne Worthy Grange, near Winchester, submitted to the Committee a Bedding Geranium which was quite clearly a Periclinal Chimaera. The Geranium always had had pink flowers, but this year one cutting had thrown a head of the usual type as well as a head with flowers of a dark red, occasionally streaked with pink.

Euphorbia sp.—The Hon. Lewis Palmer also sent for naming a *Euphorbia* collected by Mr. Peter Davis in Anatolia under the number P.D. 14809. Mr. W. T. Stearn stated that it was necessary to have fruiting as well as flowering material before an accurate determination could be made.

Paronychia sp.—Col. H. J. Denham, C.B.E., M.A., D.Sc., Mill End, Kidlington, Oxon, submitted for naming a species of *Paronychia* which had been collected in Spain on the Sierra Morena, close to the road from Madrid to Cordoba, growing on naked gravel detritus at 4,000 feet altitude. Mr. W. T. Stearn identified the plant as *P. nivea*.

FRUIT AND VEGETABLE COMMITTEE—Mr. F. A. Secrett, C.B.E., F.L.S., V.M.H., in the Chair, and seven other members present.

Awards recommended:

Hogg Medal

To Messrs. Kingsley Fruit Farms and Nurseries, Ltd., Kingsley, Bordon, Hants, for an exhibit of Strawberries.

Selected for Trial at the National Fruit Trials, Wisley

Cambridge Seedling Strawberries, Nos. 490, 632 and C/475, from Messrs. Kingsley Fruit Farms and Nurseries Ltd., Kingsley, Bordon, Hants.

Selected for Observation at the National Fruit Trials, Wisley

Apple 'Wickham Green,' from Messrs. Pope Bros., Barkham Ride Nurseries, Wokingham, Berks.

Other Exhibits

Group of Strawberries, from Mr. H. S. Melbourn, Pinetree Fruit Farm, Cranborne, Wimborne, Dorset.

Seedling Cherry, from C. J. Howlett, Esq., The Yews, 309 Wokingham Road, Earley, Reading.

Cambridge Seedling Strawberries Nos. 143, 276, 614, 679, 134, 422, 54 and 448, from Messrs. Kingsley Fruit Farms and Nurseries Ltd., Kingsley, Bordon, Hants.

Strawberry Seedling, from Mrs. Birchenough, Stour House, Sturminster Marshall, Wimborne, Dorset.

FLORAL COMMITTEE A—Mr. G. W. Leak, V.M.H., in the Chair, and twenty other members present.

Awards Recommended:

Gold Medal

To Messrs. Bakers' Nurseries, Ltd., Codsall, for an exhibit of Lupins.

To Messrs. Robert Bolton & Son, Birdbrook, for an exhibit of Sweet Peas.

Silver-gilt Banksian Medal

To Messrs. Allwood Bros., Ltd., Haywards Heath, for an exhibit of Pinks and *Dianthus Allwoodii*.

To Mr. J. Amand, Holbeach, for an exhibit of Irises and Ixias.

To Messrs. R. H. Bath, Ltd., Wisbech, for an exhibit of Paeonies.

To Messrs. John Waterer Sons & Crisp, Ltd., Twyford, for an exhibit of Paeonies.

Silver Flora Medal

To Messrs. Lindabruce Nurseries, Ltd., Lancing, for an exhibit of Pinks.
To Messrs. R. Wallace & Co., Tunbridge Wells, for an exhibit of Irises, Lilies and Hemerocallis, etc.

Silver Banksian Medal

To Messrs. M. Prichard & Sons, Ltd., Christchurch, for an exhibit of herbaceous plants.
To Messrs. Wheatcroft Bros., Ltd., Ruddington, for an exhibit of Roses.

Flora Medal

To Messrs. Thomas Carlile, Ltd., Twyford, for an exhibit of Lupins.
To Messrs. Kelway & Son, Ltd., Langport, for an exhibit of Paeonies, Delphiniums and Irises.
To Messrs. Mortlock Bros., Langley, for an exhibit of Fuchsias and Pelargoniums.
To Messrs. Telston Nurseries, Otford, for an exhibit of Pelargoniums.
To Mr. G. G. Whitelegg, Knockholt, for an exhibit of Irises.

Banksian Medal

To Messrs. Stark & Son, Ltd., Fakenham, for an exhibit of Iceland Poppies.

Selected for Trial at Wisley

Erigeron 'Ernest Ladhams,' from L. T. Smith, Esq., Backwoods, Oxshott, Surrey.

Other Exhibits

Anemones, Ranunculus, Pinks, etc., from Mr. C. Newberry, Knebworth.
Pelargonium from Messrs. Mortlock Bros., Langley.
Pelargonium for naming from Mrs. R. Warde, Hampstead, N.W. 3.
Pelargonium seedling from A. G. Hirst, Esq., Ryde, I. of W.
Roses and Violas from Mr. C. A. Jardine, Feltham.

FLORAL COMMITTEE B—Lord ABERCONWAY, C.B.E., LL.D., D.Sc., V.M.H., in the Chair, and seventeen other members present.

Awards Recommended:

Silver Banksian Medal

To Messrs. Burkwood & Skipwith, Ltd., Kingston, for an exhibit of flowering shrubs.
To Messrs. W. E. Th. Ingwersen, Ltd., East Grinstead, for an exhibit of rock garden plants and Heucheras.
To Messrs. Kibble & Clare, Ltd., Ascot, for an exhibit of rock garden and border plants.
To Mr. Frederick Street, Woking, for an exhibit of Rhododendrons.

Flora Medal

To Mr. K. W. Harle, Lower Basildon, for an exhibit of succulents.
To Messrs. Hollybush Nurseries, Harpenden, for an exhibit of rock garden and border plants.
To Messrs. L. R. Russell, Ltd., Windlesham, for an exhibit of ornamental foliage shrubs.
To Mr. Geo. Whitelegg, Knockholt, for an exhibit of rock garden plants.

Banksian Medal

To Mr. C. Gilbert, Romford, for an exhibit of succulents.
To Messrs. Kew Topiary Nursery, Ltd., Richmond, for an exhibit of clipped trees.
To Messrs. Wakeley Bros. & Co., Ltd., North Mymms, for an exhibit of rock garden plants.

Award of Merit

To *Kalmia latifolia* 'Clementine Churchill,' as a hardy flowering shrub (votes unanimous), from Capt. A. Granville Soames, O.B.E., Sheffield Park, Uckfield, Sussex.
To *Veronica macrantha* as a hardy flowering shrub (votes 16 for, 0 against), from A. T. Johnson, Esq., Bulkeley Mill, Tyn-y-Groes, Conway, N. Wales.

Other Exhibits

Magnolia Sieboldii × *Watsonii*, exhibited by A. T. Johnson, Esq., Conway.
Penstemon neomexicanus, exhibited by the Director, R.B.G., Kew, and Messrs. Hollybush Nurseries, Harpenden.
Primula Waltonii × *Florindae*, exhibited by the Director, University Botanic Garden, Cambridge.
Rose 'Poulsen's Parkrose,' exhibited by Messrs. T. Hilling & Co., Chobham.
Vaccinium cylindraceum, exhibited by R. O. Warburg, Esq., Epsom.

RHODODENDRON COMMITTEE—Sir GILES LODER, Bt., in the Chair, and six other members present.

Award Recommended:

Award of Merit

To *Rhododendron arborescens* var. 'Ailsa' (votes 6 for, 0 against), as a hardy flowering shrub, from Murray Adams-Acton, Esq., 37 Palace Gate, London, W. 8.

Selected for Trial at Wisley

Rhododendron (*Azalea*) 'General Wavell' ('Glory of Japan' × *indicum*), from Captain Collingwood Ingram, The Grange, Benenden, Cranbrook, Kent.

Other Exhibits

Rhododendron 'Azor' (*Griersonianum* × *discolor*) (**A.M.** 1933), from Major A. E. Hardy, Sandling Park, Hythe, Kent.

Rhododendron 'Angelo' (*Griffithianum* × *discolor*), (**F.C.C.** 1948), Seedlings Nos. I, II and III, from Captain A. Granville Soames, O.B.E., Sheffield Park, Uckfield, Sussex.

Rhododendron 'Isabella' (*Griffithianum* × *auriculatum*) and *R.* 'Infanta' ('Isabella' × *Griersonianum*), (**A.M.** 1941), from Captain Collingwood Ingram, The Grange, Benenden, Cranbrook, Kent.

Rhododendron (*Azalea*) *indicum* var. *macranthum*, *R.* (*Azalea*) *indicum* var. 'Satsuki' and *R. calendulaceum* from Mr. M. Haworth-Booth, Farall Nurseries, Farall, nr. Haslemere, Surrey.

JOINT DELPHINIUM COMMITTEE—Mr. T. HAY, C.V.O., V.M.H., in the Chair, and six other members present.

Exhibit

Delphinium species for naming from T. James, Esq., 5 Norfolk Road, St. John's Wood, London, N.W. 8, was referred to the Scientific Committee.

JOINT DIANTHUS COMMITTEE—Mr. J. L. RUSSELL in the Chair and sixteen other members present.

Awards Recommended:

Award of Merit

To *Allwoodii* 'Vera' (HP 572B), as a variety for exhibition (votes unanimous), raised and sent by Messrs. Allwood Bros., Ltd., Wivelsfield Nurseries, Haywards Heath, Sussex. Also selected for trial at Wisley.

To Imperial Pink 'Lancing Jester,' as a variety for exhibition (votes 7 for, 2 against), raised and sent by Messrs. Lindabruce Nurseries Ltd., Lancing, Sussex. Also selected for trial at Wisley.

Varieties selected for Trial

Show Pink (S.P. 1T), Show Pink 'Show Distinction,' Laced Allwoodii (LP. 20ZF), Laced Allwoodii (LP. 20ZK), Laced Allwoodii (LP. 20E), and Allwoodii (HP 578S), as varieties for the open border, raised and sent by Messrs. Allwood Bros., Ltd., Wivelsfield Nurseries, Haywards Heath, Sussex.

Imperial Pink 'Lancing White,' as a variety for the open border, raised and sent by Messrs. Lindabruce Nurseries, Ltd., Lancing, Sussex.

Other Exhibits

Seedling Dianthus, sent by T. T. Burnett, Esq., 18 Penns Road, Petersfield, Hants.

JOINT IRIS COMMITTEE—Colonel F. C. STERN, O.B.E., M.C., F.L.S., V.M.H., in the Chair, and seven other members present.

Selected for Trial at Wisley

Iris 'Snow Crystal,' sent by H. J. Randall, Esq., C.B.E., Sandilands, Brooklyn Road, Woking, Surrey.

JOINT ROCK GARDEN PLANT COMMITTEE—Col. F. C. STERN, O.B.E., M.C., F.L.S., V.M.H., in the Chair, and thirteen other members present.

Awards Recommended:

Award of Merit

To *Campanula carpatha* as a hardy flowering plant for the alpine house (votes 11 for, 0 against), from Mrs. C. B. Saunders, Husseys, Green Street Green, Farnborough, Kent.

To *Leptospermum scoparium* var. *nanum* as a hardy flowering plant for the rock garden and alpine house (votes 13 for, 0 against), from Messrs. W. E. Th. Ingwersen, Ltd., Birch Farm Hardy Plant Nursery, Gravetye, East Grinstead, Sussex.

Other Exhibits

Sempervivum arachnoideum, from W. Howell, Esq., 13 Balgowan Road, Beckenham, Kent.

Campanula atlantis (**P.C.** 1951) which the Committee would like to see at the next meeting when it is in full flower, from E. W. Sandford, Esq., 99 Leander Road, Thornton Heath, Surrey.

Eryngium glaciale, from Messrs. W. E. Th. Ingwersen Ltd., Birch Farm Hardy Plant Nursery, Gravetye, East Grinstead, Sussex.

Silene pendula compacta (**F.C.C.** 1873), from Messrs. Kibble and Clare, Ltd., Ascot Wood Nurseries, Ascot.

JUNE 17, 1952

JOINT ROCK-GARDEN PLANT COMMITTEE—Col. F. C. STERN, O.B.E., M.C., F.L.S., V.M.H., in the Chair, and eleven other members present.

Awards Recommended:

Award of Merit

To *Campanula atlantis* (votes 9 for, 0 against), as a hardy flowering plant for the alpine house, from Messrs. W. E. Th. Ingwersen, Ltd., Birch Farm Hardy Plant Nursery, Gravetye, East Grinstead, Sussex, E. W. Sandford, Esq., 99 Leander Road, Thornton Heath, Surrey and Mrs. C. B. Saunders, Husseys, Green Street Green, Farnborough, Kent.

To *Campanula petrophila* (votes 11 for, 0 against), as a hardy flowering plant for the rock garden and alpine house, from S. E. Lilley, Esq., Crowholt, 133 Monmouth Drive, Sutton Coldfield.

Preliminary Commendation

To *Stachys spinosa* (votes 10 for, 0 against) as a hardy flowering plant for the rock garden and alpine house, from C. H. Hammer, Esq., The Old Rectory, Boreham, Essex.

Cultural Commendations

To Roy C. Elliott, Esq., 15 West Drive, Handsworth, Birmingham, for a fine pan of *Diosphaera asperuloides* (votes 12 for, 0 against).

To Mrs. A. N. Griffith, Paradise House, Newnham, Cambridge, for a fine plant of *Androsace aretioides* (*A. alpina* × *A. obtusifolia*) (votes 11 for, 0 against).

To S. E. Lilley, Esq., Crowholt, 133 Monmouth Drive, Sutton Coldfield, for a fine plant of *Campanula petrophila* (votes 11 for, 0 against).

To Miss H. M. Sharples, Carter Road, Grange-over-Sands, Lancs., for a fine plant of *Leucogenes grandiceps* (**A.M.** 1941) (votes 12 for, 0 against).

Other Exhibits

Digitalis obscura, from R. B. Cooke, Esq., Kilbryde, Corbridge-on-Tyne.

Erigeron 'Four Winds,' from Messrs. Four Winds Nursery, Georgeham, North Devon.

Campanula betulaefolia (**A.M.** 1937) and *Tsusiophyllum Tanakae*, from Mrs. A. N. Griffith, Paradise House, Newnham, Cambridge.

Douglasia vitaliana, from C. H. Hammer, Esq., The Old Rectory, Boreham, Essex.

Briggsia Penlopii, from Miss E. M. Savory, Emberton House, Olney, Bucks.

JUNE 24, 1952

SCIENTIFIC COMMITTEE—Mr. E. A. BOWLES, M.A., F.L.S., F.R.E.S., V.M.H., in the Chair, and four other members present.

Tragopogon Hybrids.—Mr. Stearn exhibited specimens of two fertile tetraploid hybrids, *T. mirus* (derived from *T. dubius* × *T. porrifolius*) and *T. miscellus* (derived from *T. dubius* × *T. pratensis*), which arose in America. The specimens exhibited were raised from seed sown at Kew about seven months before, and had made vigorous growth, reaching a height of 7 feet and bearing many flower- and fruit-heads. Mr. Stearn pointed out that the genus has a special interest to geneticists in that it was the subject of hybridization experiments by Linnaeus in 1759, his hybrid *T. porrifolius* × *T. pratensis* being the first deliberately made and scientifically recorded interspecific cross.

Plants referred from Floral Committee B

Hydrangea integerrima.—An uncommon species of the group Cornidia, native of Chile. It is an evergreen, self-clinging climber with elliptic or oblanceolate glossy green leaves up to 5 inches long and panicles of small creamy-white flowers with conspicuous stamens. It was exhibited by Capt. Collingwood Ingram.

JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY

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September 1952

Royal Patronage

The President and Council
are gratified to be able to announce that
HER MAJESTY THE QUEEN
has been graciously pleased to honour
The Royal Horticultural Society
by becoming its Patron.

In doing so Her Majesty has continued the tradition, unbroken since the reign of H.M. King George III, that the Society should enjoy the patronage of The Sovereign.

THE SECRETARY'S PAGE

ANNOUNCEMENTS—SEPTEMBER AND OCTOBER

Shows

TUESDAY, September 9 12 NOON to 6 P.M. WEDNESDAY, September 10 10 A.M. to 5 P.M.	Fortnightly Show in conjunction with the Thirteenth International Horticultural Congress, September 8 to 15.
TUESDAY, September 16 1 P.M. to 7.30 P.M. WEDNESDAY, September 17 10 A.M. to 5 P.M.	National Dahlia Society's Show.
FRIDAY, September 19 12 NOON to 7 P.M.	National Rose Society's Show.
TUESDAY, September 23 12 NOON to 6 P.M. WEDNESDAY, September 24 10 A.M. to 5 P.M.	Fortnightly Show. Cactus and Succulent Society's Competition. Alpine Garden Society's Competition.
TUESDAY, September 30 2.30 P.M. to 7 P.M. WEDNESDAY, October 1 12 NOON to 5 P.M.	Royal Air Force Horticultural Show.
TUESDAY, October 7 12.30 P.M. to 6 P.M. WEDNESDAY, October 8 10 A.M. to 5 P.M.	Fortnightly Show. Fruit and Vegetable Show.
TUESDAY, October 21 12 NOON to 6 P.M. WEDNESDAY, October 22 10 A.M. to 5 P.M.	Fortnightly Show. Tree and Shrub Competition. Floral Arrangement Competition for Professionals.

British Beekeepers' Association's National Honey Show will be held in the Old Hall, Vincent Square, and will be open as follows: Thursday, October 16, 10 A.M. to 8 P.M.; Friday, October 17, 10 A.M. to 7 P.M.; Saturday, October 18, 10 A.M. to 6 P.M. The attendance of Fellows of the Society is specially invited. They will be admitted without charge on production of their fellowship tickets. Admission to the public is 2*s*. 6*d*.

Lectures

TUESDAY, September 9. International Horticultural Congress.

TUESDAY, September 23, at 3 P.M. "Fragrance in the Garden all the Year Around" by MR. E. A. BOWLES, M.A., F.L.S., F.R.E.S., V.M.H.

TUESDAY, October 7, at 3 P.M. "A Pomological Pilgrimage" by SIR RONALD HATTON, C.B.E., M.A., D.SC., F.R.S., V.M.H.

TUESDAY, October 21, at 3 P.M. Masters Memorial Lecture, "Cytology and Horticulture," Part 1, by COL. F. C. STERN, O.B.E., M.C., F.L.S., V.M.H.

Demonstrations at Wisley—The following demonstration will be given at Wisley, that on the second day being a repetition of that given on the first.

Vegetable Garden

October 1–2. Digging, Trenching, Manuring and Composting. (Commencing at 2 P.M.)

Inverewe Gardens—We have been informed that the gardens at Inverewe House in Wester Ross which formed the subject of an article in our JOURNAL in November, 1950, have now been presented to The National Trust for Scotland, together with an endowment fund to guarantee the maintenance of the garden in the future under the ownership of the Trust. The Garden will continue to be managed by Mrs. Sawyer during her life-time. The present arrangements whereby the garden is open to visitors all the year round remain unchanged as far as possible.

Publications—The following pamphlets have now been reprinted and are available on application to The Secretary. "The Cultivation of Bulbs in Bowls" by G. W. LEAK, V.M.H. Price 6*d*., by post 8*d*. "Our Lawns and their Reconstruction" by R. B. DAWSON. Price 1*s*., by post 1*s*. 2*d*.

International Horticultural Congress Excursions—It is possible that there may be some vacant places on the excursions which have been arranged for the Members of the Congress between 14th and 20th September. Any vacant places will be made available to Fellows and Associates of The Royal Horticultural Society. Personal application should be made at the Congress office, Vincent Square, on Tuesday afternoon or Wednesday morning, September 9 and 10. It is regretted that postal and telephone inquiries cannot be dealt with at this late date. Full particulars were given in April JOURNAL.

Viticultural Research Station, Oxted—We have been asked to announce that this station will be open to visitors on September 13, 14 and 21, at 10.30 A.M. and 2.30 P.M. It is situated in Rockfield Road, Oxted, Surrey.

WISLEY IN SEPTEMBER

THERE are plants and vistas on all sides to delight the visitor. Immediately on entering the Gardens will be seen two plantings of *Perovskia atriplicifolia*, valued for its late-blooming habit and blue flowers. It comes from the Himalayan region, thriving in a dry situation and dying back in winter. It was named after VASILI ALEKSIEVICH PEROVSKI, a governor of the Russian province of Orenburg in the early nineteenth century. *Ceratostigma plumbaginoides* springs up between the paving stones in the dry wall and is almost herbaceous, growing to a height of about a foot, while near by is a larger shrub with grey-blue leaves and flowers known as *Caryopteris* × *clandonensis*, a natural hybrid between *C. mongolica* and *C. incana* and probably the most attractive of the genus. *Amaryllis Belladonna* and *Nerine Bowdenii* are in flower at the foot of the wall and further along can be seen a patch of *Zephyranthes candida* with large ivory-white goblets. Among the wall plants should be

noted *Fremontia mexicana*, a rather tender shrub which can be increased easily from seed and produces its mallow-like orange-yellow blooms when only a few months old, *Abutilon megapotamicum* and *Escallonia montevidensis*, a decidedly tender evergreen white-flowered plant.

Against the frameyard wall is *Clematis Rehderiana*, the last to flower, having pretty pale yellow bell-shaped blossoms with the scent of cowslips, and at the foot of it, the cobalt blue flowers of *Ceratostigma Willmottianum* in closely packed terminal heads, *Kniphofia Macowanii*, *K. Kingii* and *K. Nelsonii*.

On the Rock Garden are a few autumn-flowering plants like *Zauschneria californica*, varieties of *Penstemon campanulatus*, *Erigeron* 'E. Ladhams' a low-growing hairy plant of the *glaucus* type, and *Liriope Muscari*, a grassy-leafed plant with whorls of purplish flowers. There are two fine South-African plants, the blue-flowered glandular-leafed *Aster Pappei* found within a few hours' drive of Cape Town, and from the Kalahari region *Kniphofia Galpinii*, a small graceful Red-hot Poker with grassy leaves and orange flower spikes. Two admirable rock garden plants are to be found in *Polygonum vaccinifolium* and *P. affine*, both evergreen with pink flower spikes to about 6 inches high, the former having trailing stems and thriving in full sun.

In the Alpine House fleshy-leafed plants like the Mexican *Sedum Stahlii*, *S. Sieboldii variegatum*, *Crassula sarcocaulis* and *C. Cooperi* are in the forefront of the display, assisted by plants like *Cyclamen graecum*, whose pink flowers are followed a little later by toothed heart-shaped leaves, *Origanum pulchrum*, and neat pink-flowered *Saponaria cypria*. Two attractive tender plants with yellow flowers are *Oxalis lobata*, and *Hypoxis hygrometrica*, which comes from New Zealand and Tasmania and has grassy leaves. Outside, the seedling Gazanias continue their colourful display as do the Annual and Rose Borders on the eastern slope.

On the fringe of the Alpine Meadow beneath some beautifully coloured Japanese Maples are groups of *Cyclamen neapolitanum* and more are to be seen in the Wild Garden, their purple flowers glistening against the brown soil. Down here there is a feel of autumn in the air and much of the foliage is taking on coloured tints. The two most outstanding examples are the Japanese *Disanthus cercidifolius* with heart-shaped claret-coloured leaves suffused with orange, and *Oxydendrum arboreum*, a native of North America. *Cyrilla racemiflora* is producing cylindrical racemes of creamy-white flowers in whorls at the base of this year's growth. Here and there are drifts of *Crocus speciosus* and Colchicums, and in the clearing the strange flowers of the Japanese Toad-lily, *Tricyrtis hirta*.

There are more Colchicums in the Award of Garden Merit Collection, together with some good herbaceous plants such as *Aster Amellus* 'King George,' *Sedum spectabile* and *Salvia uliginosa*.

In Seven Acres are many Berberis, Crataegus and Cornus bushes in fruit, and later in the month the Cherries and Spindleberries will be touched with fire. The greens are bright and crystal clear in the sunlight, the frosted conifers or amber Willows and sage-green Bulrushes contrast with the mustard-coloured Catalpa and together form a perfect foil for the colourful heaths. Of these, *Calluna vulgaris* 'H. E. Beale'

with double rosy-purple spikes is the most outstanding, but *E. cinerea* 'Cevennes' and the varieties of *Erica vagans* are worth noting.

Late in the month the Azalea Garden will be flushed with crimson and gold, the Viburnum fruit being particularly attractive, as well as the drifts of purple and white Colchicums. From here the Herbaceous Borders can easily be reached; many of the plants seen in the Award of Garden Merit Collection are here and in addition *Aster acris*, a valuable species from the Northern Mediterranean region and Asia Minor, with close corymbs of mauve ray florets and lemon-yellow disc florets, the striking purplish-leafed *Lobelia fulgens* with spikes of brilliant blood-red flowers, *Sedum Telephium* with red-purple flowers, and the 8-foot high *Eupatorium purpureum*. *Phygelius capensis*, although strictly a shrub is not unsuitable for the border; a native of South Africa, it was introduced about 1850 and although growing best in a mild climate it produces at Wisley loose panicles of scarlet tubular flowers. New varieties of herbaceous plants are always to be seen in the Floral Trial Grounds, and at this season the Dahlias and Michaelmas Daisies should be particularly fine.

In the Stove House the collection of foliage plants is maintained, supplemented by the first Orchids and the vanilla-scented *Pancratium fragrans*.

The Temperate House has its display centred on the benches where there are varieties of Achimenes, Begonias, Gloxinias, *Lantana Camara* and *Hibiscus rosa-sinensis*. The woolly-leafed orange-flowered *Buddleia madagascariensis* is trained against the roof supports, and *Cestrum aurantiacum* and the rich purple *Brunfelsia calycina* are in the centre bed.

The Half-Hardy House contains almost the same flowers as last month but with the addition of scarlet Nerines, some fine forms of *Amaryllis Belladonna* and the delightfully fragrant *Narcissus Panizzianus*. Late in the month the vegetable trial grounds have Carrots, Turnips and spring-sown Cauliflowers at maturity.

THE SMALLER GARDEN

II. BRANKLYN GARDEN, PERTH

Dorothy G. Renton

BRANKLYN GARDEN, situated about 1¼ miles from the city of Perth, is little more than 2 acres in extent, and since 1922 has been gradually evolved on the former site of a somewhat dilapidated and overgrown soft fruit and Pear and Apple orchard. The aspect is a sloping one mainly to the south and south-west, with a fine view of the River Tay and the distant hills beyond. The annual rainfall averages about 30 inches and the garden lies at an elevation of 200 feet above sea level. The soil is a good medium light loam overlying rock, and although hot sunshine is somewhat rare in this district the ground dries out comparatively quickly, owing to the rapid drainage of the sloping

site. The development of the garden began after many weary months of toil, grubbing out hundreds of useless bushes of Raspberry and Gooseberry, and eradicating Bishopweed, Bindweed and Thistles, which were well established. Fortunately, many of the old Apple and Pear trees were large, well shaped specimens, and the best of these were retained to form established features in the skeleton plan.

This framework was gradually extended by the addition of selected standard specimens of Pyrus, Prunus, Acer, Laburnum, Syringa, Crataegus, and other large shrubs. Care had to be taken in the selection of shrubs to suit the climatic conditions of this part of Scotland where severe late frosts occur frequently.

After dealing with the necessary formality of constructing a low retaining wall and paved terrace round the house, and including beds of Roses and Tulips for colour effect, it was decided to make the rest of the garden as informal as possible. A Rock Garden was formed on the steepest slopes and running water from a spring was incorporated to make a small stream with pools for Water Lilies and bog plants. On the lower areas there are screes of various types which contain the more difficult and fastidious alpines. The material used in the construction of the original screes was five parts River Tay gravel with its natural admixture of sand to which was added one part leaf soil and loam all according to the prescription of the late REGINALD FARRER. As time passed it was found that a richer mixture gave better results. More leaf soil and loam were incorporated but the surface layer of pure chips was retained to ensure quick drainage.

Ghent and Mollis Azaleas and Japanese Maples are planted near by for contrast and evergreen shrubs and slow-growing conifers are used as a background.

Throughout the Rock Garden dwarf conifers are planted to add variety, and after twenty to twenty-five years' growth there are now many good specimens of *Cupressus pisifera* and its varieties, *C. leptoclada* and the tiny *C. tetragona minima*. Acting as point plants to emphasize height are *Abies balsamea* var. *Hudsonica*, *Picea excelsa pendula*, *P. excelsa Remonti*, *P. alba echiniformis*, *Juniperus hibernica compressa* and many other dwarfs. *Tsuga Sargentii pendula* has draped itself over a large rock and is well displayed in this position. Among the small deciduous shrubs are dwarf Lilacs, *Betula nana* and many of the Willows, including a good specimen of *Salix Boydii*. When planting round the dwarf trees care has been taken to retain a sense of proportion.

Daphnes, with their delicious perfume, while valuable throughout the garden, are particularly desirable as Rock Garden shrubs. *D. Cneorum* covers itself with bloom each season and a fine old plant of *D. retusa* has produced several self-sown seedlings. *D. arbuscula* and *D. rupestris*, among the loveliest of the genus, are given a specially choice situation.

The problem of cultivating the recognized tricky alpines has been largely overcome by adopting the principle of "when in doubt plant it in the scree." Scree culture is particularly advantageous in the variable climate of Scotland. During wet periods plants do not become water-logged and in dry spells they never flag as they benefit by the cool root

run. Overhead watering, although seldom necessary, can be done with the knowledge that there is no resultant caking of the surface which always occurs with ordinary garden soil.

Among the scree plants, perhaps one of the best is *Paraquilegia anemonoides*. It has grown for many years on the shady side of a large rock which forms an admirable background for its grey foliage and delicate blue flowers. Lewisias seed themselves in profusion and many interesting hybrids have resulted from *L. Howellii*, *L. Finchii*, *L. cotyledon* and *L. columbiana*. *Androsace pyrenaica* has obligingly crossed with *A. carnea* and produced a very fine pink form. Such fastidious plants as *Ranunculus calandrinioides*, *Omphalodes Luciliae*, *Phyteuma comosum*, *Iris gracilipes*, *Azorella caespitosa* and *Helichrysum frigidum*, all grow happily.

The rest of the garden consists of mixed shrub and plant borders with winding grass paths which give a cool and restful appearance. The garden was designed to provide a home for a collection of choice plants, but at the same time consideration was given to colour grouping and dual planting schemes. The larger borders contain a mixture of Rhododendrons and flowering shrubs interplanted with the tall monocarpic yellow *Meconopsis paniculata* and the white, blue and rich wine-coloured forms of *M. napaulensis*. The bays in front are filled with such plants as Lilies, Meconopsis species, Paeonia species and Iris.

At the highest and driest point in the garden the beds have been filled with Heaths interspersed with Rose species, Genista, Spiraea and Azalea. There is colour here nearly all the year round, as the collection of Heaths includes most of the varieties and height is varied by interplanting with the taller Ericas such as *E. arborea alpina*, *E. stricta*, *E. australis* and *E. mediterranea*. *Genista hispanica* brightens the driest places where little else would grow.

One of the most outstanding and successful genera in this garden is Meconopsis. The old *M. betonicifolia* now takes second place to the magnificent newer varieties of *M. grandis*. A form of *M. betonicifolia* var. *pratensis* introduced by KINGDON-WARD about 1928 has now been included under *M. grandis*. It is a very distinct and desirable plant of tall and graceful habit flowering two weeks earlier than *M. betonicifolia*.

LUDLOW and SHERRIFF, who are responsible for so many good plants, introduced under their number 600 a form of *M. grandis* which is quite outstanding. It grows 4–5 feet high and has exceptionally large wide cup-shaped flowers of an exquisite translucent blue. It is quite distinct from the original *M. grandis* from Sikkim which flowers earlier, is not so tall, and carries its peacock blue, narrow-petalled flowers singly on stems about 2 feet high. The Sikkim variety does not set seed here but it is easily propagated by division in spring. The large-flowered form of *M. quintuplinervia* spreads rapidly and makes broad edgings to borders either in sun or shade. The hybrids of this plant with *M. integrifolia* and *M. punicea*, while interesting, are not improvements on the type plant. The deep purple dwarf *M. Delavayi* and the pale yellow *M. Florindae* once grew in the scree but now, alas, are no more. *M. primulina*, also dwarf, and the charming little *M. bella* are

treasures now growing in the scree. The new and beautiful pink *M. Sherriffii* promises to be a good perennial. BAILEY's form of *M. simplicifolia* is difficult to keep true from seed and although many fine natural hybrids have occurred in this garden, none can compare with the original form (Fig. 127). *M. sinuata*, *M. aculeata* and *M. horridula* seed themselves throughout the garden. The yellow *M. villosa*, *M. chelidonifolia* and *M. Beamishii* are quite hardy but the lovely white *M. superba* appreciates protection from winter wet.

Lilies of various types grow well and provide an opportunity for dual planting. *Lilium regale* combines well with Poulsen Roses and also grows through a groundwork of the rose form of *Penstemon diffusus*. *Lilium tigrinum* is associated with *Hydrangea paniculata* and *Lilium Martagon album* or *L. monadelphum* look charming with *Meconopsis betonicifolia*.

Among the most beautiful bulbous plants are the Nomocharis. These also benefit in appearance from light underplanting. *N. Mairei* is probably the most handsome and is grown on a raised bed where one can look up at its nodding spotted flowers. *N. saluenensis* is underplanted with *Cyananthus microphyllus* and *Nomocharis aperta* grows through *Gentiana Veitchiorum*. The dainty but less spectacular *Nomocharis nana* is easily grown. *N. oxypetala* now designated *Lilium*, in both its yellow and pink forms, make attractive groups (Fig. 126). The new *Lilium Sherriffiae*, resembling a Fritillaria, is a welcome addition as it has flowered two successive seasons in the open and appears to be quite hardy. Gentians in this garden resent a dry situation and consequently are treated as semi-shade plants. Planting the finer types between peat blocks seems to satisfy them, the exception being *G. saxosa* which enjoys semi-scree treatment.

In shady corners "peateries" have been constructed with blocks of well dried and firm peat forming banks or walls and even edging borders. These peateries provide an ideal setting and home for the ericaceous plants and the more difficult Primulas. The petiolarid Primulas grow in this situation but require careful attention during summer drought. *Primula Reidii* has been grown in the scree and in the peateries, but it is not a long-lived plant in the open and prefers Alpine House or frame culture.

Many seedling Rhododendrons have appeared in the peat blocks and some charming hybrids have resulted. *Epigaea repens*, *E. asiatica*, and Shortias and Schizocodons enjoy the cool root run and the Cassiopes flower freely with a seventeen-year-old plant of *C. lycopodioides* as the most outstanding specimen (Fig. 125). *Phyllodoces*, *Vacciniums* and *Gaultherias* make themselves at home and the tiny *G. humifusa* has established itself firmly in a peat wall. Many other plants show a preference for peat. *Orphanidesia gaultheriodes* with pink flowers like a large Epigaea, *Pteridophyllum racemosum* with fern-like foliage and feathery white flowers and the dainty little *Bryanthus Gmelinii*, are all particularly attractive peatery plants. *Philesia buxifolia* flowers freely in a sheltered corner and *Rhododendron Forrestii* grows between the peats with *Linnaea borealis*. *Anemone obtusiloba* var. *patula* in its blue and white forms, and also *Ranunculus Lyallii* and *Glaucidium palmatum* enjoy the coolness. *Omphalogramma elegans*, *O. minus*, *O. Delavayi* and

O. Souliei appear to like peat at their roots and *O. vinciflorum* flowers very freely when established (Fig. 124).

Dwarf Rhododendrons are massed on the upper slopes of the peateries and include the series Lapponicum, Saluenense, Glaucum, Campylogynum and Uniflorum. These are interspersed with ericaceous shrubs and some of the larger-growing Rhododendron species. One of the forms of *R. fictolacteum* introduced by KINGDON-WARD is quite outstanding with its bright red sticky foliage bud scales and beige felted dark green leaves. *Pieris Forrestii* also excels in spring foliage and its vivid scarlet plumes are as spectacular as any flower. *Rhododendron* 'Cilpinense,' one of the earliest to flower, is followed very quickly by *R. Fargesii* and *R. ciliatum* but these run the risk of having their delicate pink buds scorched by late frosts. One of the most charming hybrids is *R.* 'Temple Belle' (*orbiculare* × *Williamsianum*) and a particularly free-flowering form of *R. caloxanthum* was grown from seed introduced by MAJOR SHERRIFF in 1938.

All the Thomsonii series give a delightful variation of shades from pink through orange yellow to pale primrose and planted with them for later flowering are *R. cinnabarinum* and *R. auriculatum*.

In other borders where hybrid Rhododendrons are inclined to look dull after flowering they are interplanted with some of the French hybrid Lilacs, Enkianthus, Deutzias, and such shrubs as *Halesia carolina*, *Clethra Fargesii*, *C. tomentosa* and *C. paniculata*.

In the more open and exposed situations Viburnums do exceedingly well and although *V. Mariesii* is perhaps acknowledged to be the best, the forms of *V. Opulus* give extra reward in the autumn with their brilliant red berries. Unfortunately, the Cotoneasters, with the exception of *C. serotina*, are decimated by birds in the fruiting season. Some of the prettiest shrubs in autumn are the Euonymus and *E. phellomanus* covers itself with coral pink fruits.

In spite of late spring frosts which occasionally damage some of the more tender flowering shrubs, *Hydrangea Sargentiana* flowers freely and has grown into a splendid specimen, and *Embothrium coccineum* also flowers well and appears unaffected by climate. The beautiful *Magnolia Watsonii* is quite hardy and a large tree of *M. sinensis* makes a striking picture with its sweet-scented drooping flowers.

The first sign of spring in the garden is the appearance in February of the brilliant blue *Iris histrioides* frequently flowering quite undaunted through a covering of snow. The earliest Cherry to flower is 'Cheal's Weeping,' which unfailingly smothers itself with its lovely pink blossom. This is quickly followed by *Pyrus atropurpurea* and the brilliant rose-red of the flowers, which come before the leaves, seem to be a signal for the garden to burst into life. Many varieties of Narcissus are grown under trees and on banks, and new and good forms are planted in little groups at path edges. The pink and white of Apple, Pear and Cherry blossom, with groups of Japanese Azaleas, and red and white forms of *Primula denticulata* make a charming early effect. Dwarf Narcissus, Tulip species, *Sanguinaria canadensis*, both single and double, along with Anemones make the Rock Garden bright. From now onwards it is difficult to mention any particular plant which stands out from its

neighbour. There is a very fine specimen of *Betula albo-sinensis* var. *septentrionalis* grown from seed received from DR. ROCK in 1926. It casts its parchment-like bark annually and exposes a pink satin-smooth surface of exceptional beauty.

Less spectacular but always interesting is *Olearia virgata* with its feathery drooping branches and *Corokia Cotoneaster* and *Ilex Perneyi* have made large well shaped bushes. There are many varieties of Philadelphus but the handsomest and earliest to flower is *P. Delavayi*. The flowers, with their deep purple calyx, are quite conspicuous and the erect habit and delicate perfume are more attractive than most of the hybrids.

The Alpine House, like many things, had to be neglected during the war and most of the rare and difficult treasures were planted outside. Several of them still survive and are growing in old stone troughs which sit on the terrace round the house.

Growing against the wall of the house are various Cydonias, *Ceanothus Veitchianus*, *Viburnum plicatum*, Leptospermum and *Clethra Delavayi*. *Crinum Powellii*, peculiarly enough, flowers well in this rather dry position and *Nerine Bowdenii* blooms luxuriantly every autumn and its cut flowers are a never ending source of pleasure in the house, where they last for many weeks.

The more difficult Androsaces, Soldanellas, *Gentiana gilvostriata*, *Meconopsis bella* and *Diapensia obovata* respond well to trough treatment. The Alpine House and frames are now used principally for propagation and for protection of the newer introductions until their habits become better known, and fastidious Primulas such as the tiny *P. pusilla*, *P. sapphirina*, *P. glabra* and *P. reptans* can be looked after more particularly.

P. Dickieana lives somewhat precariously in the open but it grows very happily in the frames where it flowered for the first time in this country in spring 1950.

THE NORTHERN HORTICULTURAL SOCIETY

C. H. Grey

IT has been obvious to all of us who have gardened in the North of England that a northern horticultural station—a half-way house between Kew and Edinburgh—has always been an urgent horticultural need. An urgent need even when the great private gardens were still in their heyday, and when there were being trained in their bothies a constant succession of young gardeners, versed in every branch of horticulture—an essential need to-day when such gardens as survive achieve survival by the mass production of readily saleable fruit and flowers and have neither the time, the labour, nor the knowledge to carry out experiments whether in hybridization or in the introduction of new plants from every part of the world with which, a hundred years ago, every garden of any importance was filled. And there were very many such gardens,

competing with one another, as nursery gardens compete to-day, in the production and exhibition of excellent plants and excellent displays.

Those days are over for the time; and it is therefore more than ever necessary to establish in northern England a counterpart to The Royal Horticultural Society's great station at Wisley, where commercialism plays no part, where trials of newly raised hybrids can be carried out, and where new plants can be tested for hardiness and suitability to inland climatic conditions north of the Trent.

Two attempts were made, before and after the first World War, to establish such a station, but for one reason or another the organizing societies failed to secure a satisfactory site and sufficient financial support to enable a start to be made. It required the stimulus of the second World War and the resultant elimination of the great private gardens, to re-awaken interest in the establishment of a Northern Horticultural Station.

Shortly before the end of that war a small society with the ambitious name of the Northern Horticultural Society was formed in Manchester. Its membership was confined almost entirely to a few enthusiastic gardeners—park superintendents, botanists at Manchester University, nurserymen and amateurs in the immediate neighbourhood of the city; and for three years or so its efforts were confined to the publication of a monthly journal and to the promotion of one or two flower shows.

On those lines it was evident that the Society had no prospect of assisting, to any noticeable extent, the development of horticulture in the North of England, or of having any justification for its name, and it was therefore decided to make a serious attempt to recruit members throughout the Northern Counties for the express purpose of establishing, no matter on how small an initial scale, a station centrally situated in the north of England.

The recruiting campaign, conducted entirely by personal letters, was remarkably successful in view of the fact that the Society had nothing to offer apart from a journal no better than many similar publications.

The attraction was of course its declared aim of establishing something in the nature of a Northern Wisley: and in under a year the membership, less than two hundred strong, increased to close on a thousand.

It was felt that this increase justified an attempt to start a horticultural station and for nearly a year the Council of the Society had great hopes that it might be possible, in association with the City of Leeds and the National Trust, to develop the magnificent garden at Bramham Park as a northern Wisley, while preserving intact, and maintaining as its outstanding feature, the only great garden in the Le Nôtre style still surviving in Great Britain.

In the end, however, it became evident that sufficient land adjoining the garden proper could not be made available for the purpose of trial grounds and for the development of fresh strains capable of accommodating themselves to northern conditions. In consequence therefore, with very great regret, this enterprise was abandoned and we were compelled to seek fresh woods and pastures new.

We were offered many sites, several of them most attractive from the point of view of climate and soil had our object been to develop a beautiful garden somewhere north of the Trent in which, with a minimum of effort, all manner of plants could readily be established. Southern Cheshire, the Wirral, the coastal belt in northern Lancashire and in Northumberland, were rejected with much regret because they are not easy of access to the whole of Northern England and because, climatically, they are hardly more typical of northern conditions than Bodnant or Tresco.

After much searching of heart it was eventually decided to accept the offer made by the Corporation of Harrogate of a leasehold site comprising 18 acres of woodland and 8 acres of rough pasture and arable land situated a little over a mile from the town, with the possibility of acquiring a further 40 to 50 acres as and when required. Possession was obtained in August 1949.

Until the spring of 1950 we had no garden staff of any sort and the grassland—I have never seen worse—was ploughed under contract; not an easy operation as, almost on the surface, it was riddled with boulders a ton or more in weight. Soil conditions varied from silver sand and alluvial silt to clay which would not have disgraced the Weald of Kent. I doubt whether it had ever been drained or whether cultivation had ever amounted to more than surface titivation!

With regard to the woodland it had quite evidently received no attention for many years and had developed into a jungle of bramble, moribund Birch, Beech, Whitethorn and Alder. There were no rides and no signs of their existence in an earlier life, and no attempt at drainage.

It seemed ridiculous to hope that any trained and skilled gardener would for one moment contemplate tackling a primeval jungle, so my own gardeners opened up some wide rides—we were fortunate in the process in finding some quite good trees: Beech, Birch and Alder on which they could be based—and made some *clairages* in which we planted Azaleas, Rhododendron hybrids and a few Magnolias and Kalmias. And the evening and the morning were the first day!

On the open ground MR. BISHOP, Parks Superintendent at Harrogate, had been of great assistance in planting, with flowering shrubs, a central avenue from which the present avenue has developed.

By the spring of 1950 it had become time to obtain a garden staff. Several candidates were interviewed and ultimately MR. HARE, the present head gardener, was appointed—Edinburgh-trained, with a year's subsequent experience as a foreman in the Harrogate Parks Department. Arrangements were made at the same time with the West Riding Agricultural Committee for a supply of European voluntary workers, excellent labourers but totally ignorant of horticulture and with very little knowledge of English.

I find it bewildering to recall the problems with which MR. HARE was confronted two years ago. Eighteen acres of woodland, waterlogged and choked with brambles and ferns; a mile of rides cleared of top growth, with many hundreds of stumps left in the ground; an almost unlimited quantity of dead and dying brushwood; the wood bounded

on the north by a stream, full of aesthetic possibilities, but so overgrown with rubbish of every description as to be almost invisible. The open ground, in spite of the fact that it faced almost due south at a slope of not less than one in ten, was hardly less waterlogged than the woodland; and we decided in view of our tiny staff—MR. HARE (a host in himself), a willing but not very competent English labourer and three European voluntary workers—that it would be wise to concentrate on the woodland and stream, and to leave the open land fallow until the autumn, planting our Dahlias, Gladioli, herbaceous perennials and annuals among the shrubs already planted under the direction of MR. BISHOP in the central avenue.

A bulldozer was accordingly introduced to clear the stumps from the rides. They looked, after the operation was completed, as if they would never be dry or level again. However, MR. HARE'S labourers tackled their work extremely well, and by the end of the summer the rides were certainly far better than the average woodland ride.

The problem of drainage was very much complicated by the astonishing variety in the character of the subsoil. Under a 12-inch to 18-inch covering of leaf-mould the underlying surface might be silver sand, a coarse red sand, gravel, loam or stiff clay; and after heavy rain the fine sands tended to wash away and to block the drain pipes under the rides. After a time, in spite of our initial difficulties, the beds of our ditches consolidated and by the end of the summer of 1950 the woodland was drained and nearly one-third of its area was clear of rubbish. The drainage was in fact immensely successful. In the early summer we had dug two spits deep and had filled with leaf-mould, sand and peat an area, perhaps one-third of an acre in extent, destined to receive in the autumn new hybrid Rhododendrons and Exbury Azaleas, generously given to us by Messrs. Slocock and MR. J. P. C. RUSSELL and *Lilium giganteum* from LORD STAIR. Our drainage scheme had not reached that area by mid-August and it had acted in consequence as a sump for all the land surrounding it. Ditches were cut immediately and by the time, early in October, that we desired to plant it had entirely dried out, and nothing could look better to-day than the Rhododendrons, Azaleas, Magnolias and Kalmias which we planted.

The woodland has two quite distinct characteristics. Six acres or so must have been cleared of scrub at the beginning of the nineteenth century and planted with Oaks which, in spite of constant and complete neglect have made good growth. During the summer we cleared that area completely of all scrub—mainly Birch and Mountain Ash—and prepared the ground for planting with groups of Rhododendrons, Azaleas, Gaultheria, Pernettya, Clethra, Magnolia, with a shelter belt of Cupressus on its western edge. During the autumn we felled all misshapen timber and cleared all branches to a minimum height of 20 feet.

Something over a hundred yards of stream were weeded during that summer and planted in the autumn, and it will be seen from the illustrations what a very successful operation it was, thanks very largely to Messrs. Perry's generosity.

During the summer a bungalow was built for the head gardener, and

three glasshouses, presented to the Society by the constructors, were erected; a considerable range of frames, put together almost entirely by MR. HARE and his unskilled labourers, were set up and made available for autumn propagation. Although very much remained to be done the place was beginning to look like a garden in the making.

HER ROYAL HIGHNESS THE PRINCESS ROYAL, who had honoured the Society by becoming its patron in the late summer of 1949, had graciously promised to plant a commemorative tree in the spring of 1951; and the Council were anxious that, so far as possible, the Station should be in a fit condition to receive HER ROYAL HIGHNESS. Thanks to grants from three or four members of the Council two extra labourers were engaged; borders were prepared for the reception of many species of spring bulbs, for Gladioli, for Yuccas and Kniphofias, for florists' Tulips and for Flag Irises, including many new varieties generously presented by Messrs. Wallace and Messrs. Kelway; a Rose garden was dug and surrounded by hedges of Sweet Briars and 'Zephyrin Drouhin,' perhaps the most rewarding of all Roses for continuance of flower and delicacy of scent. On the opposite side of the broad walk a garden was also constructed to accommodate a great collection of species and old-fashioned Roses—a most liberal gift from Messrs. Hilling.

A start was also made with the digging of a pond in which to grow a collection of Water Lilies given to the Society by MAJOR STEWART from his magnificent collection at Pocklington.

Eventually, after great delay and at even greater cost, the entrance gates—once the entrance gates to the Valley Garden, and given to the Society by the Corporation of Harrogate—were at length erected; a simple bridge was thrown across the stream at the end of the long walk—that walk was sown throughout its length and grew its grass like mustard and cress; steps and little rock banks were made at the entrance to the woodland; and all was ready for the planting by HER ROYAL HIGHNESS of *Nothofagus obliqua* on a perfect April 11th in the middle of a glacial week—well and firmly planted as a tree should be planted.

Throughout 1951 a great deal of development work was carried out in every part of the station. The Oak Wood south of the PRINCESS ROYAL'S tree was opened up to continue the vista of the broad walk and was flanked by clumps of Daffodils and Rhododendrons; a view westwards, with a splendid panorama to the Blubberhouses Moor was exposed; the clearance of worthless underwood and of brambles was continued, and many shrubs and woodland 'bulbs'—Trillium, Cypripedium, Bletilla, Nomocharis, several species of Orchis, Lilies of the Valley and many Lilies have been planted; and as an experiment we planted in the autumn *Grevillea rosmarinifolia* and *G. sulphurea*, Embothrium (Comber's form), three species of Pittosporum and three of Eucalyptus, *Desfontanea spinosa*, *Drimys Winteri*, *Tricuspidaria lanceolata*, *Azalea* 'Hexe' in quantity, *Lomatia ferruginea* (with a protection of bracken), every species and variety of Eucryphia, and Camellias, quite regardless of their reputed tenderness or otherwise. I had a look at them all on April 4, after a week of icy winds—not so glacial, of course, as they have been in the south!—and found that *Eucryphia nymansensis*

was dead—it had been a sick plant all the winter, that Tricuspidaria had been browned, but certainly will recover, and that no other shrub, apart from a young plant of *Choisya ternata*, growing without any sort of protection, had suffered in any way. Shortias and Epigaeas are doing admirably.

So far as monocotyledons are concerned, it appears to me that soil conditions are ideal for Cypripediums, Trilliums and Nomocharis. We are raising five or six species of Nomocharis from seed, but gifts of Cypripediums and Trilliums will be most welcome; and success can, I think, be guaranteed.

So far as the rest of the station is concerned the Lily Pond has been completed by MR. HARE and his unskilled labourers—completely and perfectly water-tight—at a cost of £134, as against a tendered price of £320. It has been surrounded, more or less, by a modest heather garden, and although it is a little difficult to justify a pond with no visible means of support halfway up a hill, we hope that it may appear ultimately to derive from moorland watershed! Whether legitimate gardening or not, MAJOR STEWART'S Water Lilies had to be accommodated and certainly will look charming. As for the heather garden we are growing all the European tree heathers. I cannot see that 17 degrees of frost, our minimum temperature this year, has affected them in any sort of way. We do not, unlike Farnborough, get zero or anything approaching zero frosts and on general lines we do not get the frosts of early autumn and late spring, so common and so devastating in the Home Counties. Certainly we shall have casualties; but even at Tresco they are not unknown, and I am inclined to think, in a climate normally more rigorous than that of shores washed by the Gulf Stream, that shrubs tend to develop a certain hardiness if nature is kind during their early stages and, that with the passing of the years, we shall be able to demonstrate, given good drainage and protection from draughts, that many more plants will grow and flourish in the heart of Northern England than has ever been dreamed of by southern gardeners in their philosophy.

The stream has been cultivated and planted throughout its length; two little waterfalls have been made, and it should form a most attractive border to the woodland which gradually we are filling with Trilliums —very gradually because they are so difficult to obtain—Erythroniums, Solomon's Seal, the common forms of *Lilium Martagon* and many other lovers of open woodland. We have at least been able to make a start with that portion of the open ground destined for trial grounds and have made two borders, 100 yards long by 14 feet wide, for the accommodation of herbaceous plants.

Arrangements have also been made with the National Dahlia Society for the carrying out of their northern trials, when approximately a hundred varieties not yet in commerce will be tested for suitability and vigour under northern conditions in very stiff loam. Similar trials will also be carried out by the Northern Growers Association in kinder, warmer soil in respect of standard varieties and of varieties recently introduced.

A small garden has also been prepared for the trial of the newest Michaelmas Daisies, based on MR. SANDFORD'S lovely Michaelmas Daisy

garden in Suffolk, which must be familiar to all visitors to Newmarket. Many of the varieties have been raised by MR. SANDFORD during the past three or four years and we have endeavoured to include all the best forms and colours wherever raised.

For this great volume of work we have at present a head gardener, a foreman, three European voluntary workers and a young lady who works part time as a propagator. Even that tiny staff—tiny for twenty-six acres under intensive cultivation, and responsible for raising very many thousands of plants from seed and cuttings—can only be maintained with the greatest difficulty; and we require ten thousand members instead of our present membership of under two thousand in order to enable us to achieve our aim—in close co-operation with Wisley, Kew and Edinburgh—of providing a Station which will be able to render really outstanding horticultural service whether to individuals or to garden clubs and garden societies throughout the north of England.

FLOWER FORCING FOR EARLY MARKET ON A DUTCH NURSERY

F. H. Allen

EDITOR'S NOTE: MR. ALLEN was a Kew student and in 1948 was awarded the scholarship which is sponsored jointly by The Royal Horticultural Society and the Worshipful Company of Gardeners, and open to young gardeners of promise who are undergoing, or have completed, training at Wisley or elsewhere and who have had at least four years' practical experience in horticulture. The scholarship is tenable for three years and part of this time must be spent at a horticultural centre abroad. This article is the substance of the report which MR. ALLEN presented to the Scientific Committee on his work in Holland and it is published in the JOURNAL on the recommendation of the Council of the Society.

THE nursery area of Boskoop is one of the most low-lying parts of the province of South Holland, being between 6 and 9 feet below the level of the River Gouwe which flows through its centre. The whole area is divided by canals 6–9 feet deep and 3–10 yards wide into strips varying in width from 10–30 yards. The water level in the canals is maintained at a constant depth, i.e. about 18 inches below soil level, by the operation of pumps and sluices at the river bank, and water transports pass to and from the river through locks. Much of the transport of plants and materials within the nursery and between nurseries is done with small barges or boats called "Schuits," of which each nurseryman has a small fleet.

Into the canals are thrown all weeds and soft vegetable waste. Periodically the canals are dredged by hand labour, the dredgings being stacked in heaps to dry and then returned to the land. During the summer water weeds are abundant; these are removed and either dug in as green manure or composted for future use. In addition, farmyard manure and artificial fertilisers are used to maintain a high level of fertility.

The nurseries of Boskoop number between 600 and 700 and vary

in size from about 1 acre to 15 acres, the majority of them producing trees and shrubs, especially Rhododendrons, Azaleas, and conifers for which the soil, which is of organic origin, with a *p*H of 5–6, is ideally suited. Only three or four of the nurseries are entirely given over to the production of herbaceous perennials, while fruit trees and fruit tree stocks, for which Boskoop was once famous, are now seen only in small numbers. Only a few produce blooms for the cut-flower trade and I believe that the one on which I have been working, owned by J. A. BOER, is the largest. It is about 8½ acres in extent, 1 acre of this being devoted to glass, and produces forced blooms of Prunus, Azalea, Forsythia, Rhododendron, Hybrid Tea and Polyantha Roses and Chrysanthemums. I feel sure that Fellows of the R.H.S. will be interested to learn something of the cultivation on a commercial scale of such familiar plants for the early flower market.

PRUNUS

Prunus serrulata 'Hizakura' and *P. Cerasus roseo-pleno* receive almost identical treatment. They are bench grafted by the "Splice" method on Common Cherry (*P. avium*) in February. The stocks are usually one- to two-year-old seedlings, and the scions, 3 or 4 buds in length and about as thick as a pencil, are cut from well-ripened wood of the previous summer's growth. This wood is usually taken from bushes in the recuperation year after forcing, when growth is rather light. The grafts are tied with strong twine and then sealed with grafting wax, and on completion are heeled into a frost-free place until they can be planted out in the field towards the end of March, 18 inches apart each way.

The first year's growth is cut back to about 3 buds in February, and the resulting breaks are pruned in like manner the following year. The third year's growth may be anything up to 5 feet in length. This is allowed to stand, and in March or April, varying with weather conditions, the bushes are transplanted at 2 feet 6 inches apart each way. This checks the formation of a spreading root system. It also encourages the formation of side-shoots and flower buds. During the summer the bushes are wrenched at the root two or three times to encourage the formation of a good ball of fibrous roots which will lift easily when the bushes are required for forcing in January or February, i.e. four years after the initial grafting. Some of the bushes are lifted in November and heeled in near the forcing houses, to facilitate transportation during periods of very bad weather.

Prunus Cerasus roseo-pleno can be forced about three weeks earlier than *P. serrulata* 'Hizakura' and so is brought into heat during the last week in December and heeled in upright. The temperature is raised to 45° F. for the first ten days and the bushes are syringed twice daily with clean water. Then the temperature is raised to 65° F. and maintained at this level until the end of the forcing period. Syringings are increased to four daily until the colour of the bloom can be seen. When the buds begin to swell all the growth buds are removed by breaking them out with the thumb and finger. It is fairly easy to distinguish between flower and growth buds, for the former are short and round and the latter thin and elongated. The removal of the growth

buds is done to allow a maximum of light and air to reach the flowers. Moreover, if these buds are present when the blooms are cut and placed in water the leaves flag in a very short while and look most unsightly. After four or five weeks in heat the first blooms can be cut, and it should be possible to remove all flowering branches from the bushes within four or five days.

Prunus serrulata 'Hizakura' can be brought into a temperature of 60° F. after the first week of January. Instead of standing upright, however, they are laid down so that the branches lie in as near a horizontal position as possible and so that the buds are forced to break evenly. Only when the disbudding operation is carried out are the bushes stood upright; otherwise they receive the same treatment as described for *P. Cerasus*. Blooms should be ready for cutting after the fifth week in heat. After the middle of February the bushes can be stood upright immediately they are brought into heat, and as the season progresses the forcing period shortens until in April it is only a matter of days. But rather than let them bloom out of doors they are brought into the houses to protect the blooms from adverse weather.

The preparation of the bushes for the second and subsequent forcings varies a little from the initial treatment.

After the first forcing, the strongest branches are not cut too hard so that at least two or three legs are formed to bear the flowering stems. When these have developed satisfactorily, all the snags remaining after forcing are reduced to about 3 inches from the base. The bushes are then removed from the houses and heeled in under frost shelters. When all risk of hard frosts is passed, in late March and April, they are planted out in the field 4 feet apart each way in soil which has been well manured and deeply dug. The growth made during the following summer is usually rather thin and short and is pruned back in February to 3 buds, and the bushes remain on the same site for a further year in which period the growth may be as much as 6 feet in length. During the following February and March, provided that the weather is suitable, the bushes receive a dressing of basic slag, 3–4 ounces per square yard, and are then lifted and replanted on the same site; this checks root-growth and encourages the formation of side-shoots and flower buds, so that the bushes may be forced at the close of the year, i.e. three years after the previous forcing. This treatment may continue until the bushes are thirty to forty years old, when the larger specimens may stand 10 feet tall at forcing time, and weigh quite 150 lb.

Prunus triloba flore-pleno receives quite different treatment from the above-mentioned varieties.

It is budded in summer on St. Julien stocks at a height of 18 inches to 2 feet above soil level, 1 or 2 buds being inserted in each stock.

The growth made during the year following the budding is pruned to 3 buds in the winter, and the growth arising from this pruning is forced, i.e. approximately two and a half years after the budding operation.

The bushes can be brought into heat at the end of December; they are planted in an upright position, syringed three or four times daily and the temperature maintained at 60° F. Syringing ceases when the

colour of the blooms is visible. Cutting of the blooms may commence after the fourth week.

When the blooms have been cut, the snags and any non-flowering branches are pruned back to 2 buds, and the bushes are removed to frost shelters where they remain until they are planted out, 3 feet apart each way in well-prepared soil, in April. Unlike *P. serrulata* and *P. Cerasus* there is no building up of the framework of the bush; the pruning of all branches to 2 buds is strictly adhered to and after a few years the bushes of *P. triloba* are crowned with a mass of branch bases such as develops on a 'Pollard Willow.' The growth made during the ensuing summer can be forced in the winter. Thus this forcing is an annual event as compared with a three-year occurrence in the case of *P. serrulata* and *P. Cerasus*.

The flowering branches of all these Prunuses are cut as long as possible up to 4 feet in length and are then graded according to length of stem and quality of bloom. Those which are termed "Extra" and "First Quality" are tied in bunches of five stems, the remainder in bunches of ten, and are then wrapped ready for the market.

Aphis is the worst pest of Prunus at the nursery and control measures consist in spraying in January with a 5 per cent. tar oil wash, and in summer with "Parathion" at 1 : 3,000 concentration.

AZALEA

Azalea mollis. Although some nurserymen employ the grafting and seed-sowing methods, on this nursery *A. mollis* varieties are propagated by layering in August. The branches of selected plants are pegged down on to the surface of the soil and are then covered with a 50/50 mixture of soil and fresh granulated peat. The side-shoots grow upwards towards the light, and rooting takes place at the nodes. From the time of layering until the young plants are severed from their parent, a period of eighteen months usually elapses. The young, well-rooted plants are then transplanted 6 inches × 12 inches apart and are allowed to remain on the same site for two years. Any flower buds which appear are broken out in the early spring of each year. After this initial two-year period the plants are transplanted 2 feet × 2 feet where they stand for a further two years before they are ready for forcing.

Varieties such as 'Franz Van Der Boom,' 'Queen Emma,' and 'Leonora,' which respond to early forcing, are brought into heat during the last week in December; they are heeled in upright, syringed three or four times daily, and kept wet at the root. The temperature is raised to 70°–75° F. and the first blooms may be cut after a period of five to six weeks. The blooms do not force as regularly as do those of Prunus at this early stage and ten to fourteen days may elapse before a house can be cleared.

After forcing, the snags are cut back to about 3 inches in length, the stools are then heeled in out of doors and covered with a thick layer of straw to protect them from frost. This is a very important point, because, after such hard forcing, the sap is running very freely, and the slightest freezing of the wood will cause the bark to split, resulting in serious "die-back."

In April the stools are planted out in the field in well-prepared soil 2 feet 6 inches apart each way. The growth made during the summer is pruned the following spring just below the terminal buds. They grow on for a further summer, after which the best plants, i.e. those with 3 or 4 well-budded branches, can be forced. More usually, however, the flower buds are removed and the bushes transplanted and then forced during the following winter.

Before being packed for market, the blooms of *A. mollis* receive a special treatment known as "glueing."

Normally when a flowering shoot of *A. mollis* is cut and placed in water it begins to drop its flowers within a period of twenty-four to thirty-six hours. Therefore, to make the flowers "last" longer the corollas are "glued" to the flower stalk. The material used for this purpose is a solution of shellac in methylated spirit, one or two drops of this solution being placed on the junction of the petals and flower stalk. The methylated spirit quickly evaporates and leaves a film of shellac over the union and thus prevents the corolla from falling.

After this operation is completed, the stems are graded according to quality of bloom and length of stem, tied in bunches of five or ten, and wrapped in tissue paper ready for market.

Azalea japonica varieties are propagated from cuttings of soft wood in July and April. The cuttings, about 2 inches long, are inserted to half their length in a compost of granulated peat and sand, 1 inch apart each way, in propagating cases with a bottom heat of 60° F. They are thoroughly watered in and subsequently only watered when absolutely necessary. They are shaded during periods of strong sunshine, and are ventilated for half an hour or so daily to dry up condensed moisture. Rooting takes place in four to six weeks. When well rooted they are removed to open beds in the propagating house or in another frost-free house where they are overwintered. In April or May the young plants are stopped and the firmest of the shoots used as cuttings, being treated in exactly the same manner as described above.

In June, the young plants are planted out in the field 6 inches apart each way, but before the first frost comes they are lifted and planted in frames or houses so that they receive adequate protection from the winter frosts. Young plants are particularly susceptible to frost damage and are carefully protected; older and more woody plants can withstand several degrees of frost, but if it is too severe the flower buds are damaged and the value of the plant from the forcing point of view considerably reduced.

Each year the longest shoots are pruned back a little to keep the plants in a fairly even shape, and the summer planting and winter lifting continues until they are three years old, after which period the largest may be forced, being then about 8 inches in height. The smaller plants may be grown on for a further year or even two years, until they are of sufficient size for forcing.

Forcing begins at the end of December. The plants may be brought direct into a maximum temperature of 60° F. Though they are kept moist at the root, syringing in this case is avoided. After about five weeks in these conditions the buds begin to break, and when the first few

Photo, Sir Wm. Dunning

THE GARDENS AT BRANKLYN, PERTH

FIG. 121—A grass walk in spring

FIG. 122—A general view of the Rock Garden

THE GARDENS AT BRANKLYN, PERTH

Photos, J. T. Renton

FIG. 123—One of the screes in the Rock Garden

Photo, J. T. Renton

FIG. 124—*Omphalogramma vinciflorum* (See p. 313)

Photo, Sir Wm. Dunning

FIG. 125—*Cassiope lycopodioides*, a seventeen-year-old plant (See p. 312)

Photo, R. Eudall

FIG. 126—A pink Lily, *Lilium oxypetalum* (*Nomocharis oxypetala*) (See p. 312)

Photo, J. T. Renton

FIG. 127—*Meconopsis simplicifolia* Bailey's form (See p. 312)

Photo, 'The Yorkshire Post'

FIG. 128—The main shrub avenue the first spring after planting

THE NORTHERN HORTICULTURAL SOCIETY'S GARDENS

FIG. 129—The central avenue with shrub borders, 1952

FIG. 130—The Water Lily Pool and Heather Garden

FIG. 131—The Stream Garden

FIG. 132—The Polyanthus Trials at Wisley (See p. 340)

Photo, J. E. Downward

blooms are open and the colour can be seen in the majority of the buds, the plants are ready for market.

Each plant is carefully examined, all dead leaves and twigs being removed along with any prominent non-flowering branches. They are then wrapped individually in paper and packed in crates ready for dispatch. These plants are not used to any great extent as pot plants, but rather are they incorporated in floral baskets, etc., so that the even regular proportions associated with *A. indica*, are quite unnecessary in *A. japonica*.

FORSYTHIA

Forsythia intermedia spectabilis is propagated from cuttings of hard wood, when the buds are beginning to swell, usually at the end of February. The cuttings are made from well-ripened wood of the previous summer's growth; they are cut to about 10 inches in length, the lower end being cut just below a bud, and a thin strip of bark about 1 inch in length also being removed. All the buds are allowed to remain so that a stooling habit may be formed. The prepared cuttings, protected from very severe frosts, are heeled in outdoors, until March or early April when they are planted out in the field 12 inches apart each way, and inserted to half their depth.

The growth made during summer is cut back to 3 buds in winter or early spring, with the result that the growth of the following summer is quite strong and in some cases 5 feet long. In March of the following year the bushes are transplanted to check root growth and to encourage the formation of side-shoots and flower buds, so that the plants can be forced for the first time when they are three years old.

The earliest forcing begins at the end of December. The stools are brought into the forcing houses and heeled in, in a vertical position. For the first week or ten days, the temperature is raised to 40°–45° F. and the plants are syringed twice daily. The soil temperature is also raised to 50°–55° F. by underground radiators. After this initial period the atmospheric temperature is raised to 60°–65° F. and the syringings increased to four per day until the colour of the blooms can be seen. With such treatment the first blooms can be cut after the third week.

After the middle of January no more complete plants are brought into the houses. Instead, the branches are cut from the stools in the field and then stood in water in the houses. The branches are all graded when they are cut and are placed in receptacles according to their various grades. This considerably simplifies the final grading after forcing. With such treatment the blooms are suitable for market in seven to ten days and much valuable time, space and fuel have been saved. The blooms, however, are a little smaller, and of a slightly lighter colour than when forced on the stool. For market the branches are graded according to length and quality of the bloom, those of best quality being tied in bunches of five stems and those of poorer quality in bunches of ten: they are wrapped in grease-proofed paper ready for dispatch.

The snags on the stools which have been brought into the houses are cut back to about 3 buds, any dead wood and very weak growth is

cut away and the stools are then placed out of doors until they are replanted in April. Apparently these suffer very little from frost damage, for they are allowed to stand out of doors without being heeled in and without protection of any kind. The stools from which the branches were cut in the field receive the same pruning and then they are all replanted in April in well-dug and manured soil 2 feet 6 inches apart each way. The growth made during the ensuing summer is allowed to stand, and in the following April they are transplanted on the same site to check root growth and to assist the formation of flowering spurs. The stools can then be forced again in the winter, i.e. forcing is done every second year.

A number of experiments has been carried out at the Rijkstuinbouwschool, Boskoop (State Horticultural School), with the gas treatment of Forsythias in an endeavour to advance the commencement of the forcing season; though some results have been obtained, as yet they are by no means conclusive.

RHODODENDRON

Rhododendron catawbiense grandiflora and *R.* 'Pink Pearl' receive identical treatment; they are bench grafted either in summer or winter using the "Splice Graft" on two-year-old *R. ponticum* seedlings. The scions are cut about 4 inches long from firm shoots of the current season's growth, without a flower bud, if possible. The grafts are tied with strong twine, and in summer (August), they are plunged in peat in cold frames fitted with double lights. They are well watered in, and subsequently kept moist and shaded from strong sunshine. Given warm weather the union is formed in five or six weeks, the plants being watered as necessary. When the union has formed the under lights are removed and some ventilation given as weather conditions allow. They remain in the frames until planted out in the field in the following spring.

The winter grafting varies a little from the summer method. First of all the stocks are brought into a warm greenhouse to start the sap moving before the grafting operation is carried out. The completed grafts are plunged in propagating cases with a bottom heat of 60°–65° F.; they are kept moist, and again the union should have formed within six weeks. The plants are then given increasing amounts of ventilation and a gradual drop of about 10° of warmth, after which they can be removed to a frost-free house until they are planted out in the field 12 inches × 12 inches apart. They are grown on for two years in the same position, any flower buds being removed as they appear. Then in the spring of the third year they are transplanted to 2 feet 6 inches apart each way. By the end of the third year the largest bushes may be forced, but it is the more usual practice to disbud them all and transplant them again so that they form good balls of root and long flower stems before being forced. The production of plants with long flowering stems is of prime importance in this branch of the business, the price often being influenced more by the length of stem than by the quality of the bloom.

In November all the plants which are to be forced are brought into frost shelters in the vicinity of the houses, and thus in this respect the Rhododendrons receive much more consideration than the majority of the other plants. The reason, of course, is that the flower buds can be so easily damaged by severe frost.

Forcing begins at the end of December, the first bushes being removed from the frost shelters to the forcing house at a temperature of 45°–50° F. for the first seven to ten days and being syringed twice daily; the temperature is then raised to 60°–65° F. and the syringings increased to four daily until the colour of the blooms can be seen. Blooms may be cut after a period of seven to eight weeks. After the middle of January plants may be brought direct into a temperature of 60°–65° F.

Here again the blooms are graded according to quality and length of stem, made into bunches of five stems, and wrapped in grease-proofed paper ready for market.

The after forcing treatment consists in the first place of cutting back the snags to about 4 inches from the base. The stools are then removed from the houses to frost shelters where they remain until planted out in the field, in April or May, 2 feet 6 inches apart each way. Each spring any flower buds are broken out. In the spring of the third year the stools are transplanted so that the outside branches of each bush just touch those of its neighbour. During the summer, flower buds are formed which will provide forcing material for the following winter.

It must be realized that the length of the forcing period which I have given for each subject applies only to the first and perhaps the second batches of plants brought into the forcing houses. As the natural blooming season approaches the length of time necessary to accomplish the forcing diminishes. The treatment of the last batches of plants can hardly be considered as "forcing"; it is only a matter of bringing the plants into the houses so that the blooms are protected from the vagaries of the weather.

In November of each year, and with the exception of *Azalea japonica* and the Rhododendrons, a proportion of the plants which are to be forced is brought from the field and heeled in in the vicinity of the forcing houses, all the transportation being done by boat. Then, provided that the canals are not frozen too hard the plants remaining in the field are brought first into the forcing houses. If the winter should be exceptionally long and severe, boats have to be abandoned altogether and sledges used instead.

The maintenance of an unbroken supply of forced blooms between January and April is no easy matter, but it is achieved by using, in all, six forcing houses. The season begins with only two of these being filled; a week or ten days later another is filled, and so on, until by the end of January all six houses are in use. Then as one batch of plants is removed its place is immediately taken by a new one. The season closes by just the reverse of this process during April, so that by the end of the month all the plants have been forced. As each house becomes empty the soil is deeply dug and manured to receive other crops, such as Roses and Chrysanthemums, to continue the cycle during the summer.

ROSES

Hybrid Tea and Polyantha Rose varieties are either budded in summer or grafted in winter, the stocks used being *Rosa rugosa*, *R. rugosa* 'Spek's Improved' and *R. multiflora*.

For budding, stock cuttings about 12 inches in length are inserted to about one-third of their length, 6 inches apart, in rows 12 inches apart, a path 18 inches wide being left between each pair of rows to facilitate the budding operation which is carried out in July and August. Only one bud is inserted in each stock just above soil level; the operator works down one row and back the other so that the buds are on alternate sides of the stocks. He works with his back to the plants and with legs apart and head bent between the knees; a good man can insert and tie 90–100 buds per hour.

In the following spring when the buds are in good condition the plants are beheaded immediately above the bud, and are then grown on for at least another year before being planted in the houses.

Grafting is usually done in February. The rooted stocks are lifted and reduced in length to about 3 inches, and the scions, which are taken from well-ripened shoots of the previous summer's growth, are cut into lengths of 2 or 3 buds. For this work a type of cleft graft is used. The stock is not split centrally, but to one side, just a little deeper than the bark, the cleft being about 1 inch in length. The scion is prepared so that the two sloping cuts form an even wedge, with a thick and a thin edge, which is inserted into the stock so that the cambium on the thick side of the wedge is aligned with the cambium of the stock. The completed graft is tied with strong twine which has been pretreated to prevent it rotting quickly. The grafts are plunged in peat in the propagating cases with a bottom heat of 60°–65° F. until the unions have callused and the scions have started to grow. They are then removed to open beds in the propagating house, and later plunged in cold frames until they are required for planting in the houses, or are planted out of doors in March or April.

Before the bushes are planted the soil is deeply dug and broken down to a fine tilth, and a dressing of well-rotted farmyard manure incorporated. Planting is done with the hand and not with trowel or spade. The line stands about 8 inches above the soil and is marked with knots of coloured string at the distances to which the bushes are to be planted, i.e. 12 inches for Hybrid Teas and 15 inches for Polyanthas. The hand is thrust into the soil perpendicularly beneath the line and the soil scooped out as with a trowel; the bush is then inserted in the hole so formed, the soil is replaced and made firm and the bush should then stand upright beneath the line. The rows are spaced 15 inches apart and after every four rows a path 18 inches wide is left.

After planting, the night temperature is raised to 60°–65° F. and water is given as necessary. The first shoots of Hybrid Teas are stopped at a height of 12 inches and the resulting breaks when they are 6 inches long. The shoots arising from this second stopping produce the first blooms which, for bushes planted in March, may be cut during the second half of July. Only the crown bud is allowed to develop, subsidiary buds being removed by breaking them out when they are quite

young. Two further crops of bloom may be taken from these plants in the first year, one by the end of September and the second by the middle of December. From the beginning of September fire heat is used to maintain the night temperature unless the weather is very warm.

The shoots arising from newly planted Polyantha varieties are stopped when they are about 4–6 inches in length so that a much lower "bush" is formed. The Polyantha blooms take about fourteen days longer to grow than the Hybrid Teas because they are not cut until the blooms are fully opened.

Established bushes are usually "started" in February. They receive a top dressing of farmyard manure and new soil, and each branch is cut back 3 or 4 inches to a strong bud. Water is given, the night temperature raised to 60°–65° F. and the first crop of blooms may be cut after nine or ten weeks for Hybrid Tea varieties and after twelve weeks for Polyanthas.

Further maintenance requires that water and ventilation be given as necessary so that the shoots grow evenly but do not get too soft. All poor shoots are cut hard back to encourage strong breaks and any suckers arising from the stock are removed; weeding always receives close attention. Two or three top-dressings of complete artificial fertiliser are given during the season at from 1–2 ounces per square yard per application. During the summer the period between crops of bloom is reduced to about seven weeks so that five crops may be taken from the bushes between February and December. The bushes have two to three months' rest in the winter. There is no severe annual pruning as with bushes growing out of doors, but such treatment is necessary every fifth or sixth year to prevent the bushes becoming too tall.

The treatment of Polyantha varieties varies only slightly from that for Hybrid Teas. Polyanthas are shorter in habit than Hybrid Teas and require more careful stopping of very short and weak growths to encourage the growth of long stems and good flower trusses. Side-shoots are left until they are well developed and then removed with secateurs; this ensures that only growth shoots are removed and that the flower truss is kept as large as possible.

Pests of Roses at Boskoop are Red Spider Mite, Thrips, and Aphis, all of which are controlled by regular sprayings with Parathion (Fosferno 20) at 1 : 1,000 concentration against Red Spider Mite and Thrips and 1 : 3,000 against Aphis.

Rose Mildew is quite prevalent especially with the Polyantha varieties and is satisfactorily controlled by Sulphur fumigation.

Rose varieties

Hybrid Teas	*Polyanthas*
'Queen Mary'—Salmon	'Juweeltje'—Pink
'Parle van Aalsmeer'—Red	'Wolf's Glory'—Light Red
'Better Times'—Red	'Dick Koster'—Red
'Dame Edith Helen'—Pink	'Margo Koster'—Deep Pink
'Adri Stokman'—Pink	'Sweetheart'—Shell Pink (Single)
'Duisburg'—Yellow	

The varieties 'Dick' and 'Margo Koster' are grown as pot plants. They are lifted from outside in December, potted into 4-inch pots and plunged in the houses to the depth of the pot 15 inches apart each way, and receive the same treatment as the other sorts. They are usually lifted for sale in May when they are bearing their first blooms.

Hybrid Tea varieties are cut when the sepals are fully expanded, but while the petals still form a tight bud; the stem is cut immediately above the lowest complete leaf, i.e. one with 5 leaflets. The blooms are then graded according to length of stem, e.g. 70, 60, 50 and 40 cms. and are then tied in bunches of twenty or ten; the blooms are laid evenly together and the ends of the stems trimmed to an even length. Each bunch is wrapped in grease-proofed paper and is then ready for transport to the shops or market.

Polyantha varieties are treated in the same way as the Hybrid Teas except that they are cut when the blooms are fully open, and only tied in bunches of ten.

The single-flowered variety 'Sweetheart' is cut in the bud stage.

For transport by rail the blooms are packed in strong cardboard boxes or "trunks"; each is lined with paper, and a cushion of wood-wool or paper-wool is placed in the bottom. The blooms are laid in with their heads to the ends of the box; when the box is full the stems are secured by a thin wooden lath nailed across the centre of the box. The blooms are then covered with paper, another cushion of wood- or paper-wool is placed on top and the lid fitted and secured by two strip-steel bands encircling the box. The necessary labels are glued on and the box is then ready for shipment.

CHRYSANTHEMUMS

These are a very important source of blooms for the trade in late summer and autumn and in 1949-50 about 27,500 plants were grown at the nursery.

Propagation begins in early March and when I arrived at Boskoop the first cuttings had been rooted and were being transplanted into cold frames.

The propagating pits are prepared with a mixture of peat with a little sand, the level of which is about 3 inches below the lights and 8–10 inches deep. The prepared cuttings, 2–3 inches long, are inserted to half their length, about 1 inch apart each way; bottom heat keeps the temperature at 60°–65° F. and rooting takes about four weeks. The peat and sand is well wetted before the cuttings are inserted but no water is given afterwards; the lights are opened for half an hour each day to dry up condensed moisture. When rooted the cuttings are allowed full ventilation for a couple of days and are then transplanted into cold frames, but instead of being covered with glazed lights only slatted sun-blinds are used. They are covered with reed-mats when night frosts are likely to occur.

The land for Chrysanthemums is prepared by deep digging and the incorporation of farmyard manure, if this is available; otherwise, a dressing of complete fertiliser at 3 oz. per square yard is raked in before planting. The planting of the earliest varieties commences during the

last week in May, these being followed at intervals by the later ones, so that all the planting is completed by the end of June. The method of planting is the same as that employed for the Roses.

The plants may be divided into four groups according to the treatment each receives; these are those which:

(*a*) Will bloom out of doors.
(*b*) Are later lifted into the houses to bloom.
(*c*) Are planted in the houses in June.
(*d*) Are grown with only one bloom per plant.

(*a*) The early flowering varieties are planted 12 inches apart each way in blocks of four rows, with a 20-inch path between the blocks. They are given only a short stake to support the "leg," other support being provided by a net of wire and string.

(*b*) Late blooming varieties are planted 12 inches × 15 inches apart in double rows with an 18-inch path between each pair of rows.

(*c*) Spray blooming varieties planted in the houses in June are supported by a net of wire and string. Disbudded plants are individually staked and tied and planting distances are the same as for outdoor sorts.

(*d*) Plants disbudded to a single bloom are planted 9 inches each way. Out of doors they receive a single stake, but in the houses the net of wire and string is used.

Stopping of the majority of plants is only done once so that the "leg" is about 6 inches in height. 'Sparkler,' a small red-flowered variety, is stopped a second time and as many as twelve or fourteen blooms may be taken from one plant. Staking and tying are done as is necessary; the first "tie" is made with a split soft iron wire ring about 1 inch in diameter and only supports the "leg." Other ties are made with string which is looped completely round the plant and stake, sufficiently tight to hold the stems upright. The number of ties is always kept to an absolute minimum, not only to economize in the use of string but also to facilitate the work when cutting the blooms.

Disbudding of the earliest varieties commences at the beginning of August. In many cases it is necessary to disbud to a secondary bud because the stems are of insufficient length; especially is this so with those varieties grown with one bloom per plant. Varieties such as 'Smit's Superlative,' 'American Schlager,' and 'Kauffman' are also disbudded to a secondary bud because by so doing the bloom produced is of much better quality than that from the crown bud.

The only pest attacking Chrysanthemums is Aphis and is controlled by Parathion Dust or Spray.

The houses which are used for the shrub forcing in winter and for the pot Polyantha Roses are planted up with Chrysanthemums in June, the earliest varieties being 'September White,' 'Beryl,' and 'Daydream.' As soon as these have finished blooming the stools are removed and are replaced by later blooming varieties. These lift very easily from the soil here, the ball being about 12 inches in diameter. They are plunged in the houses in rows close together and about 9 inches between rows

and kept well watered. Plenty of ventilation is allowed except in very cold weather, when a temperature of 50° F. is maintained.

Chrysanthemum varieties in approximate order of flowering:—

Outdoors August, September, October

(All Disbudded)

'Samaria'	'Millersdale'	'Sparkler'	'Yellow Gown'
'Bronze Utopia'	'Arnhem'	'Charter'	'Flaming Torch'

(Spray Blooming)

'Shirley Pride'	'Stella Rose'	'Mrs. Douglas Foxwell'	'Mosquito'
'Shirley Cream'	'Wendy'		'White Bouquet'
'Shirley White'	'Peter Pan'	'Snow Elf'	'Correct'

In houses August, September, October

'September White'	'Daydream'	'Mary'	'Edmonton White'
'Beryl'	'Typhoon'	'Blanche du Poitou'	'Rose Chocod'
'Fairmaid'	'Hurricane'	'Pink Ness'	
	'Imperial Yellow'		

In houses November–December

'Golden Seal'	'Rolanda'	'American Schlager'	'Algores Yellow'
'Pink Markers'	'Little America'		'Finale'
'Loveliness'	'White America'	'Yellow Ideal'	'Kauffman'

These are cut with stems as long as possible up to 90 cms. Disbudded sorts are cut when the bloom is almost fully expanded and are then graded according to length of stem, and size and quality of the bloom. The lower leaves are removed from the stems and the blooms are then tied in bunches of five or ten; each bloom is wrapped in tissue paper and then the whole bunch in grease-proofed paper.

Spray blooming varieties are cut when there are at least three blooms open per spray. These are graded according to length of stem, i.e. short and long. The leaves and side-shoots are removed from the bottom 5 or 6 inches of the stems which are then made into bunches of varying sizes according to demand, some in self-colours, some mixed. Each bunch is wrapped in grease-proofed paper.

For transport by rail the blooms are packed in the same way as for Roses, except that the large blooms are laid singly in the boxes, not in bunches.

In conclusion I should emphasize that as the soil at the nursery is quite unsuited to the use of cultivating machinery, the cultural operations are carried out by hand labour. During my stay at the nursery a staff of eleven men was employed for the cultivation of the 8½ acres. The nurseryman always assisted with the cutting and packing of the blooms and two extra workers were employed for the digging and planting in spring and early summer.

Finally, the year's work I have outlined should not be interpreted as representing a cross-section of the flower forcing industry in Holland. Production methods vary in Holland even as in Britain and I have stated only the case for one particular Dutch nursery.

THE IRIS FAMILY

EVANSIA SECTION. (Crested Iris)

Charles Bedbrook

THIS section was named after THOMAS EVANS of the India House and Stepney, in 1812, in recognition of the fact that he had introduced into this country the first known members of this section.

Iris cristata. One of the dwarfs of this section, was introduced by SOLANDER in 1789. It is a native of the South-Eastern United States, from Georgia to Ohio.

I. lacustris. Introduced by NUTTALL in 1818. Named by reference to its home on the shores of the Great Lakes. This Iris is now considered by many authorities to be a form of *I. cristata*, which it resembles, although *I. lacustris* is the more delicate of the two and has shorter foliage and smaller flowers. They are not considered easy to grow in this country.

These members of the Evansia section are practically stemless, the flowers being raised above the ground by a perianth tube 3 to 4 inches long. The flowers are usually borne singly but are sometimes in pairs. They are pale lavender with a centre white ridge along the haft of the falls. The haft is tipped with orange with lilac on the blade.

These two Irises like a cool, moist, rather loose soil, consisting of sharp sand and leafmould or peat. They will only transplant satisfactorily directly after flowering when root action is really active. During this period, plenty of moisture at the roots is essential as a period of drought at this time would be fatal.

I. gracilipes. Introduced by GRAY in 1839. This slender little Iris is the only one of the group confined to Japan. Lilac or pinkish mauve in colour, the small crested flowers are not more than 1½ inch in diameter. The crest is orange and the stems are much branched. It likes a cool aspect, and does best in soil rich in humus. Transplanting should be done in the summer when growth is active and the slender rhizomes are throwing out their root fibres.

I. japonica. Introduced by THUNBERG in 1794. A native of Central China and Japan. This species has a slender greenish rhizome with dark green leaves, having a shiny surface. The flower stems, which usually appear about April, are about 3 feet high, are much branched and bear so many flowers that they are in bloom for some weeks continuously. The flattish flowers are of a pale lavender colour, with a darker blotch near the centre of the blade of the falls, the crest being tipped with orange. *I. japonica* is not hardy in my garden in Surrey, and requires the protection of a cloche during the winter months. Further north it must be considered a cool-house plant, and given this condition it is practically evergreen. A well-grown clump of this Iris is truly a lovely sight when in full bloom. *I. japonica* is not fastidious as to soil, so long as it is supplied with adequate moisture during the growing season in spring, and provided the drainage is good. Of recent years a variety known as 'Ledger's' has been introduced. This is quite hardy except perhaps in the extreme north, but like *I. japonica* itself, will do better

if given a certain amount of protection during severe weather. It makes a lovely cut flower and if picked in the bud stage will last for a considerable time in water. After many efforts I have succeeded this year in crossing it with *I. tectorum alba*, obtaining about 40 seeds.

I. Milesii. Introduced by SIR MICHAEL FOSTER in 1883. Named after FRANK MILES, who raised the plant in 1880 from seeds collected by his cousin in the Kulu district to the north of Simla. The growth of *I. Milesii* can be likened to a vigorous form of *I. tectorum*, with a stout greenish rhizome. The branching stem grows to as much as 3 feet in height, but the flowers are relatively small. The flowers resemble *I. tectorum* in form, but are not so large and are of a reddish shade of purple with darker markings. *I. Milesii* is quite hardy in this country and grows vigorously in any ordinary garden soil, and since its leaves die away entirely in the autumn it is prepared to stand quite a hard frost. After many attempts I have only this year succeeded in crossing this Iris with *I. tectorum*. I hope the resulting seedlings will prove of value.

I. tectorum. Introduced by MAXIMOWICZ in 1871. A native of Central and South-West China. Commonly referred to as the "Roof Iris of Japan," because in that country it is grown on the thatched roofs of houses. Probably the best garden plant in the Evansia section, the rather broad leaves, which are ribbed, grow to about 18 inches in length and the branching flower stem to about 15 inches. The flowers are of a deep lilac or blue purple and are quite flat in appearance since the standards are extended almost horizontally. The blades of the falls are always mottled with a darker shade on a lighter ground and it has a lovely jagged white crest, flecked with brownish purple. There is also a very beautiful white form with yellow markings on the crest, known as *I. tectorum alba*. It is not a difficult plant to grow, provided it is well ripened in the summer and given a fairly rich soil. As it is very shallow rooted it should be frequently transplanted into fresh soil, an operation best carried out at the end of July or early August when root growth is active. Many good hybrids have been raised from *I. tectorum* and I hear from a correspondent in America that *I. pallida* has been crossed by *I. tectorum* and the resulting hybrid has been named 'Paltec' by the raiser. The colour is described as a dainty pale blue self, having both the crest of *tectorum* and the beard of *pallida*.

I. Wattii. Introduced by BAKER in 1892 from Assam and South-West China. Named after SIR GEORGE WATT, who collected a specimen of the species on Khongui Hill, Manipur. Owing to this plant's habit of forming stems one year and of flowering from its extremities in the following April, it is obvious that it is only in the mildest of winters that the plant is a success in the open. *I. Wattii* grows very rapidly, the new growth appearing about April, and by September the stems are 2 feet or more in height with very broad foliage. There are five to seven leaves in each tuft, 12 to 18 inches long and as much as 3 inches broad. Planted in an Alpine house in light rich soil this Iris is a great success, for the stems containing the tufts of leaves are then crowned with a branching inflorescence of lovely white flowers slightly tinged with pale mauve. The flowers are similar in shape to those of *I. japonica* but are larger. The falls have an oblong blade and a small erect orange crest in the

centre of a small orange blotch. The mauve style branches end in jagged crests which rise in the middle of the flower. *I. Wattii* was given an Award of Merit in 1938. That great flower lover MR. E. A. BOWLES, your friend and my friend, has raised a lovely hybrid, *I. Wattii* × *I. japonica*, which he has named 'japo-Watt.' It has a wonderful branching habit, the stems sometimes carrying as many as 100 flowers or more.

In the United States several new hybrids have been introduced, J. C. STEVENS of Greenville, New York, having raised the variety named 'Fairyland,' whilst J. N. GIRIDLIAN of California raised the variety which he named 'Nada.' In both cases the cross was *I. japonica* × *I. Wattii*. It is claimed by the raiser of 'Nada' that the branching stem carries as many as 200 flowers lasting over a period of several weeks. Another new seedling, which MR. GIRIDLIAN has called 'Darjeeling,' a selfed seedling of 'Nada,' he claims has larger flowers and better colouring than the parent. This hybridizer has been trying to obtain a lavender-coloured plant with the *Wattii* habit, but the lavender shade seems to be recessive. All his seedlings have so far been white or very pale coloured.

In concluding this article I should perhaps mention *I. confusa*. As it is inferior to *I. Wattii*, which it resembles in habit and growth, it is seldom seen in this country. The flowers, which are much smaller than *Wattii*, are white with a golden crest and golden markings on the falls. It requires the same treatment as *I. japonica* and *I. Wattii* as it is not hardy. The peculiar name given to this Iris is due to the fact that for many years it was confused with, and indeed thought to be synonymous with, *I. Wattii*. It was not until a plant of the true *I. Wattii* was received from MAJOR JOHNSTON that the error was discovered. Owing to the confusion which had arisen over its identity it was finally decided to call it *I. confusa*.

It was introduced by W. R. DYKES in 1911, who received seeds from PÈRE DUCLOUX, which he had collected in Gannan.

NOTES FROM FELLOWS

A New Fruit-growing Hazard

At the request of a well-known East Kent fruit farmer I was inspecting his new vineyard and discovered that several hundred out of a thousand vines of a single variety appeared to be suffering from a serious disease, the symptoms of which were new to me. The young foliage at the points of growth was debased and deformed: instead of being bright green it was greyish; the characteristic vine-leaf shape had been lost, the leaves being shaped like an open fan, the semi-circular edge having a rough fringe, reddish in colour. The leaves were twice or three times as thick as normal leaves, and felt, as it were, quilted; their surface was roughened and matt, instead of being smooth and glossy.

Although these symptoms are not among those associated with the known virus diseases of vines, I could think of no other disease or pest

capable of so marked an effect on leaf morphology. A physiological disease due to soil deficiencies, called by the French *Brunissure*, could not account for so radical a transformation of the foliage. On the other hand it seemed remarkable, if this was a virus disease, that the vines appeared in all other respects healthy and vigorous.

Discussing the phenomenon with a friend who is a Ministry of Agriculture pomologist, I learnt that almost identical leaf deformity has been noticed in Currants and on Hops as well as similar deformities on Apples. The cause has been traced: hormone selective weed-killers applied by low-volume spraying to wheat fields or elsewhere may, in certain weather conditions, drift great distances and will, even in very small quantities, perhaps in dilutions of one part in several millions of water, cause damage to the foliage of fruit-trees and shrubs. Very young and not established shrubs and vines may even be killed. Whether the damage is serious, permanent, or goes deeper than the foliage, remains to be seen.

EDWARD HYAMS

Molash,
Kent.

WISLEY TRIALS, 1952

NARCISSI

(The number in brackets after the description of the variety is the number under which it was grown in the trial)

Division I—Trumpet Narcissi

(a) Perianth coloured; Corona coloured, not paler than the Perianth

CARGAN. (Raised by Mr. Guy L. Wilson, introduced and sent by Mr. W. J. Dunlop, Dunrobin, Broughshane, Ballymena, N. Ireland.) **F.C.C.** April 21, 1952.—Described R.H.S. JOURNAL **76,** p. 279 (**A.M.** 1951). Flowers 112 in the third year. [131]

DUNGIVEN. (Raised, introduced and sent by Mr. Guy L. Wilson, The Knockan, Broughshane, Co. Antrim, N. Ireland.) **A.M.** April 10, 1952.—Vigorous, upright foliage 17 inches tall. Flower stems 18 inches tall, strong and upright. Flowers of good form, 4½ inches diameter; perianth segments flat, 1¾ inch long and overlapping for half their length, Canary Yellow (H.C.C. 2/1); corona 1¾ inch long, slightly ribbed and expanded at the mouth with margins serrated, Aureolin (H.C.C. 3). Flowering from April 6. Flowers 35 in the first year, 57 in the second. [16]

PENBERTH. (Raised by the late Mr. R. V. Favell, introduced and sent by Mrs. R. V. Favell, Penberth, St. Buryan, Penzance, Cornwall.) **H.C.** April 10, 1952.—Vigorous upright foliage, 20 inches tall. Flower stems 21 inches tall. Flowers of good form, 4½ inches diameter; perianth segments flat, 1¾ inch long, overlapping for half their length, a clear yellow, Aureolin (H.C.C. 3/1); corona 2 inches long, mouth expanded, flat, slightly crenate and reflexed, Aureolin (H.C.C. 3). Flowering from March 25, 1952. Flowers 22 in the first year, 33 in the second, and 56 in the third. [128]

(c) Perianth white; Corona white; not paler than the Perianth

EDITH AMY. (Raised, introduced and sent by Mrs. Francis Hanger, R.H.S. Gardens, Wisley, Surrey.) **A.M.** April 21, 1952.—Vigorous, upright

foliage, 12 inches tall. Flower stems 15 inches tall. Flowers of good form, 4¼ inches diameter; perianth segments 1¾ inch long, flat, overlapping for half their length, white; corona 1⅝ inch long, margins serrated and reflexed, creamy-white. Flowering from April 8, 1952. Flowers 35 in the first year, 57 in the second. [29]

SAMITE. (Raised, introduced and sent by Mr. G. L. Wilson.) **H.C.** April 21, 1952.—Vigorous, upright foliage, 15 inches tall. Flower stems 18 inches tall. Flowers of good form, 4½ inches diameter; perianth segments 1¾ inch long, flat, overlapping for half their length, white; corona 1⅝ inch long, mouth expanded, frilled with margins crenate, a pale creamy-white. Flowering from April 11, 1952. Flowers 30 in the first year, 60 in the second. [34]

Division II—Large Cupped Narcissi

(a) Perianth coloured; Corona coloured, not paler than the Perianth

ATATURK. (Raised, introduced and sent by Col. F. C. Stern, O.B.E.) M.C., F.L.S., V.M.H., Highdown, Goring-by-Sea, Sussex.) **F.C.C.** April 21, 1952.—Described R.H.S. JOURNAL 76, p. 279 (**A.M.** 1951). Flowers 78 in the third year. [130]

ADAMANT. (Raised by the late Mr. J. C. Williams, introduced and sent by Messrs. Barr & Sons, Ltd., 11–13 King Street, Covent Garden, London, W.C. 2.) **A.M.** April 10, 1952.—Vigorous, slightly spreading foliage, 16 inches tall. Flower stems 16 inches tall. Flowers of good form, 4 inches diameter; perianth segments 1¾ inch long, flat, overlapping for half their length, Aureolin (H.C.C. 3); corona 1 inch long, slightly ribbed, mouth slightly expanded and frilled, with margins serrated, Lemon-Yellow (H.C.C. 4) at base, deepening through Indian Yellow (H.C.C. 6) to Orpiment Orange (H.C.C. 10) at mouth. Flowering from April 2, 1952. Flowers 26 in the first year, 64 in the second. [64]

BROADWATER. (Raised, introduced and sent by Col. F. C. Stern.) **A.M.** April 21, 1952.—Vigorous, erect foliage, 18 inches high. Flower stems 18 inches tall. Flowers of good form, 4 inches diameter; perianth segments 1¾ inch long, flat, overlapping for half their length, Canary Yellow (H.C.C. 2/1); corona ⅝ inch long, ribbed, mouth slightly expanded, frilled, with margins crenate, Aureolin (H.C.C. 3). Flowering from April 10, 1952. Flowers 19 in the first year, 56 in the second. [67]

CRESCENDO. (Raised by the late Mr. J. C. Williams, introduced and sent by Messrs. Barr & Sons, Ltd.) **A.M.** April 10, 1952.—Vigorous foliage, 20 inches tall. Flower stems 22 inches tall. Flowers of good form, 3½ inches diameter; perianth segments 1½ inch long, flat and overlapping for half their length, Sulphur Yellow (H.C.C. 1/1); corona ¾ inch long, ribbed, mouth straight and frilled with margins serrated, Buttercup Yellow (H.C.C. 5/1) at base, deepening to Persimmon Orange (H.C.C. 710/1) at mouth. Flowering from April 6, 1952. Flowers 26 in the first year, 73 in the second. [63]

LOMBARD. (Raised by the late Mr. P. D. Williams, introduced and sent by Messrs. Barr & Sons, Ltd., 11–13 King Street, Covent Garden, London, W.C. 2.) **A.M.** April 10, 1952.—Vigorous erect foliage, 16 inches tall. Flower stems 18 inches tall. Flowers of good form, 4 inches diameter; perianth segments 1⅝ inch long, overlapping for half their length, margins slightly incurving, Canary Yellow (H.C.C. 2/1); corona 1¼ inch long, slightly ribbed, mouth slightly expanded with margins serrated, Lemon Yellow (H.C.C. 4). Flowering from April 6, 1952. Flowers 21 in the first year, 60 in the second. [61]

RED GOBLET. (Raised and introduced by Mr. J. L. Richardson, Prospect House, Waterford, Eire, sent by Cmdr. A. M. Williams, Werrington

Park, Launceston, Cornwall.) **A.M.** April 21, 1952.—Vigorous upright foliage, 18 inches tall. Flower stems 18 inches tall. Flowers of good form, 3½ inches diameter; perianth segments 1¼ inch long, overlapping for half their length, Canary Yellow (H.C.C. 2/2); corona ¾ inch long, mouth straight with margins crenate and serrated, Persimmon Orange (H.C.C. 710). Flowering from April 9, 1952. Flowers 25 in the first year, 73 in the second. [53]

ROUGE. (Raised, introduced and sent by Mr. Guy L. Wilson.) **A.M.** April 10, 1952.—Vigorous, slightly spreading foliage, 18 inches tall. Flower stems 16 inches tall. Flowers of good form, 4 inches diameter; perianth segments 1¾ inch long, slightly incurving at margins and overlapping for half their length, Chrome Yellow (H.C.C. 605/1) flushed pinkish-apricot near Apricot (H.C.C. 609/1); corona ¾ inch long, ribbed, mouth slightly expanded with crenate margins, deep bright Persimmon Orange (near H.C.C. 710.) Flowering from March 25, 1952. Flowers 24 in the first year, 66 in the second. [56]

SARGASSO. (Raised by Mr. A. M. Wilson, Presteign, Radnorshire, introduced by Mr. J. L. Richardson and sent by Messrs. Barr & Sons, Ltd.) **A.M.** April 21, 1952.—Vigorous erect foliage, 18–20 inches tall. Flower stems 19 inches tall. Flowers of good form, 3¾ inches diameter; perianth segments 1½ inch long, flat, with margins slightly incurving, overlapping for half their length, Sulphur Yellow (H.C.C. 1/2); corona 1 inch long, ribbed, mouth expanded and frilled with margins crenate, Buttercup Yellow (H.C.C. 5) deepening to Marigold Orange (H.C.C. 11) at mouth. Flowering from April 12, 1952. Flowers 29 in the first year, 74 in the second. [66.]

(b) Perianth white; Corona coloured

FLAMENCO. (Raised and introduced by Mr. J. L. Richardson and sent by Messrs. Barr & Sons, Ltd.) **F.C.C.** April 21, 1952.—Described R.H.S. JOURNAL **74**, p. 467 (**A.M.** 1949). Flowers 48 in the first year, 77 in the second. [90.]

KILWORTH. (Raised and introduced by Mr. J. L. Richardson, sent by Cmdr. A. M. Williams.) **F.C.C.** April 30, 1952.—Vigorous erect foliage, 17 inches tall. Flower stems 18 inches tall. Flowers of good form, 4 inches diameter; perianth segments 1⅝ inch long, flat with margins slightly incurving, overlapping for half their length, white; corona ¾ inch long, mouth slightly expanded with margins serrated and crenate, Orpiment Orange (H.C.C. 10/1) deepening to Orpiment Orange (H.C.C. 10) at mouth. Flowering from April 9, 1952. Flowers 48 in the first year, 77 in the second. [92]

GUARDIAN. (Raised, introduced and sent by Mr. Guy L. Wilson.) **A.M.** April 21, 1952.—Vigorous, very erect foliage, 15 inches tall. Flower stems 16 inches tall. Flowers of good form, 4½ inches diameter; perianth segments 1¾ inch long, flat, overlapping for half their length, white; corona 1⅝ inch long, slightly ribbed, mouth expanded, with margins slightly serrated, pale cream. Flowering from April 11, 1952. Flowers 23 in the first year, 69 in the second. [97]

PENVOSE. (Raised by the late Mr. P. D. Williams and sent by Messrs. Barr & Sons, Ltd.) **A.M.** April 10, 1952.—Vigorous, erect foliage, 18 inches high. Flower stems 20 inches tall. Flowers of good form, 4¼ inches diameter; perianth segments 1⅝ inch long, flat, slightly ribbed, overlapping for half their length, slightly reflexed, Dresden Yellow (H.C.C. 64/3); corona 1½ inch long, slightly ribbed, mouth straight with margins serrated and reflexed, Aureolin (H.C.C. 3.) Flowering from March 25, 1952. Flowers 25 in the first year, 57 in the second. [100.]

RED HACKLE. (Raised by the late Brodie of Brodie, introduced and sent by Mr. Guy L. Wilson.) **A.M.** April 30, 1952.—Vigorous, erect foliage,

14 inches tall. Flower stems 15 inches tall. Flowers of good form, 4 inches diameter; perianth segments 1⅜ inch long, slightly twisted and reflexed, overlapping for half their length, white; corona ½ inch deep, ribbed, very open mouth much expanded with margins serrated and slightly reflexed, Buttercup Yellow (H.C.C. 5/1) at base, deepening to Marigold Orange (H.C.C. 11) at mouth. Flowering from April 17, 1952. Flowers 21 in the first year, 67 in the second. [93]

(c) Perianth white; Corona white, not paler than Perianth

DUNLEWEY. (Raised, introduced and sent by Mr. Guy L. Wilson.) **H.C.** April 21, 1952.—Vigorous, very erect foliage, 16 inches high. Flower stems 19 inches tall. Flowers of good form, 4¼ inches diameter; perianth segments 1¾ inch long, slightly twisted, overlapping for one-third of their length, white; corona 1⅛ inch long, ribbed, mouth slightly expanded, frilled, with margins slightly serrated and reflexed pale cream. Flowering from April 11, 1952. Flowers 23 in the first year, 68 in the second. [108]

(d) Any colour combination not falling in (a), (b) or (c)

BINKIE. (Raised by Wolfhagen, Tasmania, introduced and sent by Mr. Guy L. Wilson.) **A.M.** April 21, 1952.—Vigorous, erect foliage, 18 inches high. Flower stems 16 inches tall. Flowers of good form, 4 inches diameter; perianth segments 1¾ inch long, flat with margins incurving, overlapping for half their length, slightly reflexed, base of petal white deepening to Primrose Yellow (H.C.C. 601/2) at centre, with edges of Primrose Yellow (H.C.C. 601/1); corona 1⅛ inch long ribbed, with mouth slightly expanded, frilled, margins crenate, slightly reflexed, Primrose Yellow (H.C.C. 601/2) edged Sulphur Yellow (H.C.C. 1/1). Flowering from April 12, 1952. Flowers 46 in the first year, 67 in the second. [110]

Division III—Small Cupped Narcissi

(a) Perianth coloured; Corona coloured, not paler than the Perianth

ALIGHT. (Raised by the late P. D. Williams, introduced by Mr. J. L. Richardson and sent by Messrs. R. H. Bath, Ltd., The Floral Farms, Wisbech, Cambs.) **H.C.** April 10, 1952.—Vigorous, erect foliage, 14 inches high. Flower stems 15 inches tall. Flowers of good form, 3¾ inches diameter; perianth segments 1¾ inch long, flat, overlapping for one-third of their length, reflexed, Empire Yellow (H.C.C. 603); corona ½ inch long, ribbed, mouth slightly expanded, frilled, with margins serrated, crenate, Persimmon Orange (H.C.C. 710.) Flowering from April 7, 1952. Flowers 24 in the first year, 29 in the second, and 47 in the third. [134]

(b) Perianth white; Corona coloured

LIMERICK. (Raised and introduced by Mr. J. L. Richardson, sent by Cmdr. A. M. Williams.) **A.M.** April 30, 1952.—Vigorous, erect foliage, 18–20 inches high. Flower stems 18 inches tall. Flowers of good form, 3½ inches diameter; perianth segments 1½ inch long, flat, overlapping for half their length, white with a very slight shading of Primrose Yellow (H.C.C. 601/3); corona ½ inch long, ribbed, mouth straight, frilled, with margins deeply serrated and crenate, Persimmon Orange (H.C.C. 710). Flowering from April 23, 1952. Flowers 23 in the first year, 43 in the second. [121]

ST. LOUIS. (Raised and introduced by Messrs. F. Rijnfeld & Son, Holland, sent by Messrs. Barr & Sons, Ltd.) **A.M.** April 21, 1952.—Vigorous foliage lax, 21 inches high. Flower stems 16 inches tall. Flowers of good form, 4½ inches diameter; perianth segments 2⅛ inches long, flat, with margins slightly incurving, overlapping for half their length, reflexed, creamy-white at base, deepening to Lemon Yellow (H.C.C. 4/1); corona ⅜ inch long,

ribbed, mouth straight, frilled with margins serrated and crenate, Buttercup Yellow (H.C.C. 5/1) at base, deepening to Persimmon Orange (H.C.C. 710). Flowering from April 13, 1952. Flowers 25 in the first year, 48 in the second. [120]

(c) Perianth white; Corona white, not paler than the Perianth

PORTRUSH. Raised by Mr. Guy L. Wilson, introduced and sent by Mr. W. B. Dunlop. **H.C.** April 30, 1952.—Vigorous spreading foliage, 18 inches long. Flower stems 20 inches long. Flowers of good form, 3¼ inches diameter; perianth segments 1⅝ inch long, flat with margins incurving, overlapping for half their length, white; corona ¼ inch long, much ribbed, mouth straight, much frilled with margins serrated and crenate, white. Flowering from April 24, 1952. Flowers 23 in the first year, 50 in the second. [122]

Division VI—Cyclamineus Narcissi

(a) Cup or Corona not less than two-thirds the length of the Perianth segments

CHARITY MAY. (Raised, introduced and sent by C. F. Coleman, Esq., Broomhill, Hartley, Cranbrook, Kent.) **A.M.** April 10, 1952.—Vigorous slightly spreading foliage, 10–12 inches long. Flower stems 10–12 inches long. Flowers 3½ inches diameter; perianth segments 1½ inches long with margins incurving, overlapping for one-third of their length, reflexed, Mimosa Yellow (H.C.C. 602); corona 1 inch long, ribbed, mouth slightly expanded, frilled, with margins entire, crenate, Canary Yellow (H.C.C. 2). Flowering from March 25, 1952. Flowers 29 in the first year, 49 in the second. [96]

Division VIII—Tazetta Narcissi

GERANIUM. Raised and introduced by Messrs. R. A. van der Schoot Ltd., Hillegom, Holland, and sent by Messrs. R. H. Bath, Ltd.). **F.C.C.** April 30, 1952.—Vigorous, erect foliage, 15 inches high. Flower stems 17 inches high bearing flowers in clusters of 3, 4, 5 and 6. Flowers of good form, 2¾ inches diameter; perianth segments 1⅕ inch long, slightly twisted, overlapping for two-thirds of their length, white; corona ⅖ inch long, much ribbed, mouth straight, margins frilled, crenate, Tangerine Orange (H.C.C. 9). Flowering from April 13, 1952. Flowers 25 in the first year, 45 in the second. [142]

POLYANTHUS

Thirty-five stocks of Polyanthus were received for trial at Wisley. The trial was sown on March 8, 1951, and planted out on May 29, 1951. The plants were spaced 12 inches apart in rows 15 inches apart. All made good growth during the summer and early autumn (Fig. 132). The trial was inspected on April 21, 1952, by a Sub-Committee of the Floral A Committee, who made the recommendations for awards given below.

The number in brackets after the description of the variety is that under which it was grown in the trial.

Flowers White

SNOW WHITE. (Raised, introduced and sent by Messrs. Blackmore & Langdon, Twerton Hill Nursery, Bath.) **H.C.** April 21, 1952.—Plant vigorous, free flowering. Flowers 1½–2 inches diameter in trusses of sixteen to twenty; pure white with an orange eye; margins of petals slightly frilled. [2]

Flowers Yellow

GOLDEN QUEEN. (Raised, introduced and sent by Messrs. Blackmore & Langdon, Twerton Hill Nursery, Bath.) **H.C.** April 21, 1952.—Plant vigorous and very free flowering. Flowers 1½–2 inches diameter, in trusses of

twenty to twenty-six; bright rich yellow, Aureolin (H.C.C. 3) deepening to Saffron Yellow (H.C.C. 7) at eye. [7]

Flowers Crimson

CRIMSON KING. (Raised, introduced and sent by Messrs. Blackmore & Langdon, Twerton Hill Nursery, Bath.) **H.C.** April 21, 1952.—Plant vigorous and free flowering. Flowers 1¼–1½ inch diameter, in trusses of twelve to fifteen; deep rich velvety red with eye of Saffron Yellow (H.C.C. 7/1). [13]

Flowers Gold Laced

GIANT GOLD LACED. (Raised, introduced and sent by Messrs. Nutting & Sons, Ltd., Merstham, Surrey.) **H.C.** April 21, 1952.—Plants very vigorous and very free flowering. Flowers 1 inch diameter in trusses of ten to twelve; deep rich velvety red with eye of golden yellow and edges laced with golden yellow. [16]

Flowers of Mixed Colours

GIANT BOUQUET MIXED. (Raised, introduced and sent by Messrs. Watkins & Simpson, Ltd., 26–29 Drury Lane, Covent Garden, London, W.C. 2.) **A.M.** April 21, 1952.—Plant vigorous and very free flowering. Flowers 1½–1¾ inch diameter in trusses of eighteen to twenty-two; good clean colours including cream, yellow, bronze, crimson, lilac, purple and magenta. [27]

BATH MIXED SHADES. (Raised, introduced and sent by Messrs. Blackmore & Langdon, Twerton Hill Nursery, Bath.) **H.C.** April 21, 1952.—Plant vigorous and free flowering. Flowers 2 inches diameter, in trusses of eighteen to twenty; colours include cream, yellow, golden bronze, brick red, crimson, purple and magenta. [24]

CLANDON STRAIN. (Raised, introduced and sent by Mr. R. N. Whapshott, Portsmouth, Road Ripley, Surrey.) **H.C.** April 21, 1952.—Plant vigorous, free flowering. Flowers 1¼–1½ inch diameter, in trusses of fourteen to sixteen; colours include white, cream, yellow, brownish crimson, crimson and magenta. [20]

COLOSSEA MIXED. (Introduced by Messrs. N. V. Sluis & Groot's, Enkhuizen, Holland, raised and sent by Messrs. Vaughan's Seed Store, 601 W. Jackson Blvd., Chicago, U.S.A.) **H.C.** April 21, 1952.—Plant vigorous and very free flowering. Flowers 1½–2 inches diameter in trusses of eighteen to twenty-four; colours include white, cream, yellow, crimson, mauve, magenta, purple and lilac. [21]

FESTIVAL STRAIN. (Raised, introduced and sent by Mr. F. G. Read, South Cottage, Deopham, Wymondham, Norfolk.) **H.C.** April 21, 1952.—Plant vigorous and very free flowering. Flowers 1½ inch diameter in trusses of fifteen to twenty-two; colours include white, cream, yellow, apricot, bronze, lilac, rose pink, light crimson, crimson and purple. [23]

HARRISON'S GIANT MIXED. (Raised, introduced and sent by Messrs. Harrison & Sons (Maidstone), Ltd., Maidstone, Kent.) **H.C.** April 21, 1952.—Plant vigorous and very free flowering. Flowers 1½–1¾ inch diameter, in trusses of sixteen to twenty; colours include yellow, bronze, crimson, magenta and violet-purple. [28]

BOOK NOTES

"Flora of the British Isles." By A. R. Clapham, T. G. Tutin and E. F. Warburg. Cr. 8vo. Illus. 1,591 pp. (Cambridge Univ. Press.) 50*s*.

Since Hooker's Student's Flora, published first in 1870 and revised in 1884, there has been no standard work on which students of the British Flora could rely. Our Flora is not a static but a constantly changing entity. For a country of our size it is a very rich one. Since Hooker's work many introduced plants have become naturalized and spread widely. This new Flora includes a large number of the more notable examples of these, as well as mentioning many planted for garden and forestry purposes. A few actual new species have been discovered. The branches of biology dealing with plant ecology and genetics have developed to a very high degree and given us different concepts of our Flora. Specific and varietal names have frequently been changed to and fro in accordance with differing concepts both of the plants and of the International Rules of Nomenclature and with the discovery of earlier published descriptions. Clearly there was great need for a new standard Flora and there can be little doubt that this work, which is both authoritative and exhaustive, will fill this need for many years to come and will be the Flora which will be needed and used by students and all who are interested in our British wild flowers. It was an immense task and to the three authors, in particular to Prof. T. G. Tutin, who collected and collated the various sections, we owe a great debt. Some will, of course, find unfamiliar names for familiar plants, others may disagree with individual decisions, but nevertheless it is a great boon to have one work which can be considered and quoted as a standard and round which the plant names can be consolidated and attain a reasonable length of familiar tenure. All families and the majority of the genera are supplied with keys. The descriptions of individual species seem full enough and there are references to plates, English vernacular names, chromosome numbers, habitats and distribution as well as other interesting details. Some, like myself, will regret the uniform use of small initial letters for all specific names but this is in accord with much current botanical practice. There are a number of helpful line drawings illustrating difficult distinctions in some genera such as Polygala and Ulmus, while Miss Ross-Craig's beautiful series of drawings of British plants (published separately in parts) will, when completed, form a noble addition to the work and may well be used in conjunction with it, while we are also promised for the future a special series of drawings made to illustrate the Flora.

PATRICK M. SYNGE.

Sander's "Encyclopaedia of Gardening." 23rd edition. Revised by A. G. L. Hellyer. Pp. 526. (W. H. and L. Collingridge Ltd). 21*s*.

The first edition of Sander's "Encyclopaedia of Gardening," which has now become a standard gardening work, appeared in 1895. In 1931 it was enlarged and revised by A. J. Macself and now it has once again been brought up to date by Mr. A. G. L. Hellyer. A careful comparison of this edition with the previous one shows how thoroughly this revision has been done. Changes in plant nomenclature which are constantly taking place have been given careful consideration and many corrections, deletions and additions have been made. For example, after Halesia, which was followed directly by Halimodendron in the 1935 revision, not only has the genus Halimium been added but also Halimiocistus, its bigeneric cross with Cistus.

The information for each genus is concise and useful, often showing distinct improvement in phraseology. The Natural Order, the type of plant and common names are followed by notes on cultivation and propagation and a list of the species grown with a brief description of each giving colour, height, period of bloom, country of origin and other details such as scent, ultimate size, life span, etc., where applicable. The use of italics for specific names is a great improvement as it makes it possible to see at a glance the species mentioned. The hints on cultivation and propagation are sufficient to guide the average gardener, giving the operations and the time to carry them out.

The volume is well bound, opening flat at any page, and the print is clear and readable. For a convenient reference book at a moderate price this volume is the answer, not, of course, for every problem but certainly it is a very adequate beginning.

LANNING ROPER.

"The Flower Garden." By E. R. Janes. 420 pp. Illus. (Penguin Books.) 3*s*. 6*d*.

The appearance of this useful handbook primarily for the amateur is a welcome event, first, because it is in a price range which makes it available to all, secondly, because it is written from a highly practical viewpoint by a man of wide and varied

experience, and lastly because it is copiously illustrated with line drawings and diagrams by Arthur H. Hall. Within its covers are to be found a vast amount of information on the fundamentals of gardening such as soil preparation, the making of lawns, the layout of small gardens, garden tools and frames, and detailed chapters on the more important genera including Roses, Chrysanthemums, Dahlias, Sweet Peas, Carnations, Lilies and a wide variety of herbaceous and annual plants. The advice on propagation is excellent and the inclusion of advice on pot culture of many plants not usually treated in this fashion will be an inspiration to the city dweller.

"Plant Hunter in Manipur." By F. Kingdon-Ward. Lge. Cr. 8vo. 254 pp. Illus. (Cape.) 15*s*.

This book describes with charm and interest the adventures of Captain Kingdon-Ward and his wife during their expedition to Manipur and in particular the plants they found on Mt. Sirhoi. There are fascinating accounts of the Manipur Lily, *L. Mackliniae*, in the wild and also of *Primula Sherriffiae*, a most unexpected find on Sirhoi, far south of its former known locality. Captain Kingdon-Ward probably has more experiences of Himalayan plants in their own localities than any other living plant collector and although Manipur is not a part of the great Himalayas, the knowledge and experience gained on the higher mountains emerge throughout the book. I have enjoyed it and can recommend it to all gardeners who relish tales of plant hunting.

PATRICK M. SYNGE.

"The Amateur's Greenhouse." By A. J. Macself. 4th ed. revised. Med. 8vo. 302 pp. Illus. (Collingridge.) 18*s*.

This is one of the best standard works on care and maintenance of greenhouse plants and as such a new and revised edition will be welcome. The directions are clear and concise and the book covers a very large field in a reasonable space. The illustrations are good and in addition to photographs of individual plants there are series illustrating methods of potting, etc., which really do show the method intended. The main part of the book deals with greenhouse flowers but there are also useful chapters on construction and design, heating and propagation as well as on fruit and vegetables.

PATRICK M. SYNGE.

"The Heather Garden." By F. J. Chapple. 180 pp. Illus. (W. H. & L. Collingridge.) 21*s*.

I have just finished reading Mr. Chapple's most instructive and interesting book. The picture of my heather garden in the book may have given the impression I am a heather expert, but I am only a lover and grower of heathers, which give me an all year round flowering period and I think there are some 50 to 60 varieties in this garden. Mr. Chapple seems to cover the whole subject of heather growing with real knowledge and I am getting the book that I may learn from it a lot I don't already know. I hope people with lime-free soil will, after reading the book, become heather growers, which will give them all the year round flowering and much pleasure. Most of the shrubs Mr. Chapple mentions I grow and they thrive where heathers do. A most interesting and instructive book and Mr. Chapple certainly knows his subject.

REGINALD DALRYMPLE.
Furzey Minstead, New Forest.

"The Modern Garden." By G. C. Taylor. 5th ed. 4to. 224 pp. Illus. (Country Life.) 30*s*.

Many gardeners intent on redesigning their gardens will welcome this new edition of Mr. G. C. Taylor's excellent book of garden pictures. The first edition appeared in 1936 and the selection has been changed little since. The choice is for the most part one of gardens on a rather more lavish scale than many of us can contemplate to-day. However, as an example to garden designers they should be most helpful, while their examination should give pleasure and stimulation to all gardeners.

PATRICK M. SYNGE.

"The Iris." By Leslie N. Cave. 216 pp. Illus. (Faber and Faber). 21*s*.

Mr. Cave has written a highly informative book, combining the practical with the theoretical in such a delightful way that it makes a contribution to the library of the amateur and specialist alike. His treatment of various groups of the genus Iris is simple and lucid, and his assessment of the different species certainly is an encouragement to the keen gardener to grow these beautiful and too much neglected plants. For

example, the lovely Irises of the Juno section are considered difficult by many people, yet, as is borne out in the chapter on bulbous Irises, *magnifica*, *bucharica* and *Graeberiana* are a delightful trio in April, well within the reach of those who will observe the few fundamental precautions for planting. Species in other sections, like *Douglasiana*, *chrysographes*, *Forrestii*, *tenax* and *versicolor* are very tough and of great beauty. The maps showing geographical distribution and the alphabetical table of species compiled by A. C. Herrick giving the section, planting season, garden situation, approximate time of flowering, predominant colour and height of stem are invaluable.

The second half of the book is devoted to the bearded Irises, describing their evolution and breeding. Again Mr. Cave has been successful in stating the problems in a simple and lucid way so that the amateur can understand the mysteries and the difficulties of hybridization. I shall be very much surprised if some of his readers do not try a little experimentation on their own after digesting the chapters on hybridizing for beginners, the rules of inheritance and the family trees contained in Appendix 2. The inclusion of information regarding the methods of colour classification and judging adopted by both the British and American Iris Societies is also desirable.

Mr. J. E. Downward's fine photographs add to the usefulness and attractiveness of the book but one wishes that the coloured photographs could have been given the reproduction which they deserve. Crude colour is not an attribute of the Iris as a genus.

In summary, Mr. Cave has been unusually successful not only in passing on his vast knowledge in a simple lucid way but also his enthusiasm. Secondly, his critical judgment, often severe, and his breadth of vision, international in scope, is refreshing and constructive.

LANNING ROPER.

"Ferns for Garden and Greenhouse." By A. J. Macself. 254 pp. Illus. (W. H. & L. Collingridge.) 21*s*.

One can only regret that the author is no longer with us: and be glad that he put his store of Fern knowledge into this permanent form. There will be different opinions on the value of the book; the botanically minded gardener will find opportunities for criticism, in certain statements or omissions, and in nomenclature.

The garden minded botanist will welcome a book full of good advice in the choice of Ferns; in how to grow them well; and in why they are of such interest and fascination.

It is in this that its permanent worth will lie; and for this that it can be, and is, most warmly commended, especially to those who want to know more about Ferns.

The illustrations are excellent, and well chosen, though a few are not clearly defined —an important point in Ferns.

It does not lessen a good opinion of the book to hope that the use of a small initial letter for genera, e.g., athyrium for Athyrium, is not becoming a recognized convention.

E. A. ELLIOT.

"Successful Flower Marketing." By Violet Stevenson. 164 pp. Illus. (W. H. & L. Collingridge Ltd.) 15*s*.

In presenting her knowledge of picking, conserving, packing and selling flowers the author writes with experience and admirable clearness. Cultivation is never discussed but from the moment of snipping the flower or foliage stem to the moment when it reaches the market, shop, barrow or individual customer, all processes are described and many are illustrated by good photographs. Exact methods for tieing, knotting and trimming stems of bunches are prescribed. The equipment of sedentary workers receives pontifical attention; stretching wastes time and energy, a knife is better than scissors for it can be lifted with one movement.

Yet, in this scientifically factual book, one finds recognition of unseen forces; of the salesman's "hunch" in pricing flowers, of imperceptible changes in "the presentation of cut flowers in this country," of individual flower's needs. Euphorbia and Poinsettia stems may be sealed in sand. Zinnias have weak necks and should not be cut when young. Camellias drop more easily after being in water. Godetias should be pulled with roots. The Buttercup family hates a draught.

"Successful Flower Marketing" should prove valuable, both as a primer for the serious beginner and as a well-tabulated and indexed reference book for the expert.

C. C. VYVYAN.

"Artifical Illumination of Seedlings." John Innes Leaflet No. 11. 7 pp. (Oliver and Boyd Ltd). 9*d*.

This short pamphlet provides interesting and practical reading for those who wish to stimulate plant growth by the provision of artificial light. It gives details of method, cost, plant behaviour, etc., answering the very questions which anyone about to embark on such a project would logically ask.

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Phytolacca decandra alba.—A decorative, white-flowered Pokeweed, shown by Messrs. M. Prichard & Sons, Ltd., Christchurch. Dr. Turrill agreed to examine a specimen with a view to checking the name.
Rosa sp. from China, exhibited by Lord Aberconway. A vigorous climbing Rose allied to *R. longicuspis*. Dr. Turrill promised to have a specimen examined at Kew.

Plants referred from the Joint Rock Garden Plant Committee

Gentiana sp. Brookes 6037. Exhibited by Sir Henry Price. A small plant with pairs of linear-lanceolate leaves 2 inches long and terminal clusters of about a dozen tubular, closed, yellow flowers ¾ inch long. It was referred to Kew for identification.
Aster sp. L. & S. 21465. Exhibited by Messrs. Edrom Nurseries, Coldingham. A herbaceous plant from Bhutan, with erect, sparingly-branched stems 18 inches high bearing ovate-lanceolate, softly hairy, sessile leaves and flower-heads about 2 inches across with dark purple discs and light violet rays. A specimen was taken by Mr. Stearn for identification.

Other Exhibits

Specimens believed by the Committee to be *Aesculus parviflora* and *Hebe epacridea*, were received for naming.
Mr. Stearn reported that after examination of the Iris shown by Mr. Bowles on June 10, he believed it to be a hybrid between *I. versicolor* and *I. virginica* known as *I. robusta*. He would need to see seed pods in order to verify this conclusion, but Mr. Bowles said the plant had not produced seed.

FRUIT AND VEGETABLE COMMITTEE—Mr. F. A. Secrett, C.B.E., F.L.S., V.M.H., in the Chair, and eight other members present.

Exhibit:

Strawberry 'Hame Seedling No. 23,' from G. Stanley Dunn, Esq., 'The Hame,' Redbourn, Herts. This Strawberry was selected for trial on June 26, 1951.

FLORAL COMMITTEE A—Mr. G. W. Leak, V.M.H., in the Chair, and twenty-three other members present.

Awards Recommended:

Silver-gilt Flora Medal

To Messrs. Blackmore & Langdon, Bath, for an exhibit of Delphiniums.

Silver-gilt Banksian Medal

To Messrs. Allwood Bros., Ltd., Haywards Heath, for an exhibit of Carnations and various Dianthus.
To Messrs. D. Stewart & Son, Ltd., Ferndown, for an exhibit of Water Lilies and Astilbes.

Silver Flora Medal

To Messrs. Wheatcroft Bros., Ltd., Ruddington, for an exhibit of Roses.

Silver Banksian Medal

To Messrs. Alex Dickson & Sons, Ltd., Newtownards, for an exhibit of Roses.
To Messrs. Kelway & Son, Ltd., Langport, for an exhibit of Delphiniums and Paeonies.
To Messrs. Lindabruce Nurseries, Ltd., Lancing, for an exhibit of Border Carnations.
To Messrs. E. W. Stedman, Ltd., Longthorpe, for an exhibit of Roses.

Flora Medal

To Messrs. Thomas Carlile, Ltd., Twyford, for an exhibit of herbaceous plants.
To Messrs. M. Prichard & Son, Ltd., Christchurch, for an exhibit of herbaceous plants.
To Mr. T. Robinson, Carlton, for an exhibit of miniature Roses.
To Messrs. R. Wallace & Co., Tunbridge Wells, for an exhibit of Hemerocallis, Lilies, Irises, etc.

Banksian Medal

To Mr. C. Newberry, Knebworth, for an exhibit of Anemones.
To Messrs. Telston Nurseries, Otford, for an exhibit of Pelargoniums.

Award of Merit

To *Campanula lactiflora* 'Loddon Anna,' as a hardy plant for the herbaceous border (votes 18 for, 2 against), from Messrs. Thomas Carlile, Ltd., Twyford.

Selected for Trial at Wisley

Gaillardia 'Winkfield Apricot,' from Messrs. Winkfield Manor Nurseries, Ascot.
Heliopsis 'Light of Loddon,' from Messrs. Thomas Carlile, Ltd., Twyford.

Other Exhibits

Herbaceous plants from Messrs. Read's Hybridizing Nurseries, Hockley.
Violas, Pansies and Roses, from Mr. C. A. Jardine, Feltham.

FLORAL COMMITTEE B—Lord ABERCONWAY, C.B.E., LL.D. D.Sc., V.M.H., in the Chair, and nineteen other members present

Awards Recommended:

Silver Flora Medal

To the Shenley Hospital, nr. St. Albans, for an exhibit of *Rochea coccinea*.
To Messrs. Worfield Gardens, Bridgnorth, for an exhibit of succulents.

Silver Banksian Medal

To Messrs. Robinson, Eltham, for an exhibit of rock garden plants.

Lindley Medal

To the Commissioners of Crown Lands, The Great Park, Windsor, for an exhibit of cut branches of Magnolia foliage.

Flora Medal

To Messrs. Burkwood & Skipwith, Ltd., Kingston, for an exhibit of flowering shrubs.
To Messrs. East Lodge Gardens, Enfield, for an exhibit of rock garden plants.
To Mr. K. W. Harles, Lower Basildon, for an exhibit of succulents.
To Messrs. Hollybush Nurseries, Harpenden, for an exhibit of rock garden plants and Penstemons.
To Messrs. L. R. Russell, Ltd., Windlesham, for an exhibit of greenhouse plants and shrubs.
To Messrs. F. Toynbee, Ltd., Barnham, for an exhibit of rock garden plants and shrubs.

Banksian Medal

To Mr. C. Gilbert, Romford, for an exhibit of succulents.
To Messrs. Kew Topiary Nurseries, Ltd., Richmond, for an exhibit of clipped trees.

Award of Merit

To *Hydrangea integerrima* as a hardy flowering shrub (votes 6 for, 0 against), from Capt. C. Ingram, The Grange, Benenden.

Preliminary Commendation

To *Veronica albicans* as a hardy flowering shrub (votes 8 for, 0 against), from Messrs. Hillier & Sons, West Hill Nursery, Winchester.

Other Exhibits

Deutzia compacta, exhibited by Messrs. Hillier & Sons, Winchester.
Digitalis lanata, exhibited by The Director, Royal Botanic Gardens, Kew.
Meconopsis cambrica plena, exhibited by Mr. A. Webb, Oxford.
Orchis latifolia, exhibited by Mr. A. T. Johnson, Conway.
Phytolacca scapigera alba, exhibited by Messrs. M. Prichard & Sons, Ltd., Christchurch.
Robinia viscosa, exhibited by Col. R. S. Clarke, M.P., Haywards Heath.
Rosa sp., exhibited by Lord Aberconway, C.B.E., LL.D., D.Sc., V.M.H., Bodnant.

ORCHID COMMITTEE—Mr. GURNEY WILSON, F.L.S., V.M.H. in the Chair, and seven other members present.

Awards Recommended:

To *Phalaenopsis amabilis* var. 'Lily Koster' (votes 8 for, 0 against), from Mr. E. H. Tenhaeff, Orchid Nursery, Mr. Enschedeweg 9B Aerdenhout, Holland.

RHODODENDRON COMMITTEE—Sir GILES LODER, Bt., in the Chair, and twelve other members present.

Exhibits

Rhododendron ('Leonardo' × 'May Day') from Murray Adams-Acton, Esq., 37 Palace Gate, London, W. 8.
Rhododendron 'Bustard' (*auriculatum* × 'Penjerrick'), from E. de Rothschild, Esq., Exbury House, Southampton.
Rhododendron 'Red Cap' (*didymum* × *eriogynum*), from Mrs. R. M. Stevenson, Tower Court, Ascot, Berks.

JOINT DELPHINIUM COMMITTEE—Mr. T. HAY, C.V.O., V.M.H., in the Chair, and eight other members present.

Awards Recommended:

Award of Merit

To Delphinium 'Guy Langdon' as a variety for exhibition (votes unanimous) and Delphinium 'Anona' as a variety for exhibition (votes 6 for, 1 against), raised and sent by Messrs. Blackmore & Langdon, Twerton Hill Nursery, Bath.

Varieties selected for trial

Delphinium 'Sonata,' 'Guy Langdon,' 'Arcadia,' 'Tyrian' and 'Anona' as varieties for garden decoration, raised and sent by Messrs. Blackmore & Langdon, Twerton Hill Nursery, Bath.

Delphinium 'Daily Express' as a variety for garden decoration, raised and sent by R. C. Parrett, Esq., Yew Cottage, Fairmile Lane, Cobham, Surrey.

Other Exhibits

Seedling Delphiniums from Mr. F. G. Read, Deopham, Norfolk, and Messrs. Stark & Son, Ltd., Fakenham, Norfolk.

JOINT DIANTHUS COMMITTEE—Mr. J. L. RUSSELL in the Chair, and twelve other members present.

Awards Recommended:

Preliminary Commendation

To Show Pink 'Percy Lafford' (votes 7 for, 0 against), raised and sent by H. Goodwin, Esq., 22 Bruce Grove, Orpington, Kent.

Varieties selected for trial

Allwoodii Seedling H.P. 579 Z K and Allwoodii Hybrid I.Q., raised and sent by Messrs. Allwood Bros. Ltd., Wivelsfield, Sussex.

Pink Seedling H.G. 003.5 and Show Pink 'Percy Lafford,' raised and sent by H. Goodwin, Esq., 22 Bruce Grove, Orpington, Kent.

Seedling Pink raised and sent by S. J. Rudge, Esq., The Lodge, 2 Gills Hill Lane, Radlett, Herts.

Other Exhibits

Show Pink 'Show Discovery' (**A.M.** 1950), Show Pink 'Show Portrait' and an Allwoodii Seedling sent by Messrs. Allwood Bros. Ltd., Wivelsfield, Sussex.

Seedling Pinks sent by H. Goodwin, Esq., 22 Bruce Grove, Orpington, Kent, and by G. M. Rawlings, Esq., Red Thimbles, Maresfield Park, Uckfield Park, Sussex.

JOINT ROCK GARDEN PLANT COMMITTEE—Col. F. C. STERN, O.B.E., M.C., F.L.S., V.M.H., in the Chair, and 11 other members present.

Exhibits:

Erigeron multiradiatus (L. and S. 21465), which was referred to the Scientific Committee, from Messrs. Edrom Nurseries, Coldingham, Berwickshire.

Gentiana sp. (Brooks 6037), which was referred to the Scientific Committee, from Sir Henry Price, Wakehurst Place, Ardingly, Sussex.

JULY 8, 1952

SCIENTIFIC COMMITTEE—Mr. E. A. BOWLES, M.A., F.L.S., F.R.E.S., V.M.H., in the Chair, and nine other members present.

Plant Identifications.—Dr. Turrill in a written communication reported that after examination of the plant referred to the Committee as *Phytolacca decandra alba*, he had concluded that it was an albino variant of *Phytolacca clavigera*. Dr. Turrill further reported that the material of the yellow-flowered Gentian from Sir Henry Price under the number Brookes 6037 was quite inadequate for correct determination. He was able to state, however, that the plant was related to *Gentiana chrysantha*. Mr. Stearn reported that the plant bearing the number *Ludlow and Sherriff* 21465 which had been exhibited by the Edrom Nurseries, Coldingham, as an Aster, was *Erigeron multiradiatus*.

Periclinal chimaera.—An Antirrhinum grown in the garden of Mrs. L. Jennings, 22 Dene Road, New Southgate, London, N.11, carried flowers, some of which were pure pink, some pure white and others white flecked with pink. Quite clearly it was a periclinal chimaera.

Professor F. E. Weiss showed specimens of *Quercus Ilex* and *Sorbus aria fructu-luteo*.

Limonium insigne.—A very decorative plant with long graceful racemes of pink flowers exhibited by The Director, R.H.S. Gardens, under this name, was believed by the Joint Rock Garden Plant Committee to be *L. caesium*. Mr. W. T. Stearn agreed to examine a specimen at the Natural History Department of the British Museum with a view to checking the name.

The Secretary read a letter from Mr. Dilwyn Morgan, 80 Dumfries Street, Treherbert, Glamorgan, who claimed to have established certain Chinese species of plants on the Brecon Mountains. The Committee recommended that Mr. Morgan be advised to refer his letter to the Secretary of the Botanical Society of the British Isles.

FRUIT AND VEGETABLE COMMITTEE—Mr. A. CHEAL, in the Chair, and fourteen other members present.

Selected for Trial at the National Fruit Trials, Wisley

Raspberry Seedling from A. Bashford, Esq., Anjon, Crescent Road, Barfields, Bletchingley, Surrey.

Other Exhibits

Exhibit of Tomato 'The Amateur' from Messrs. W. J. Unwin, Ltd., Histon, Cambs.
Exhibit of Red and Black Currants from Messrs. Laxton Bros. Bedford Ltd., Bedford.
Cherry Seedling from L. D. Mitchell, Esq., 142 Cedar Road, Strood, Rochester, Kent.

FLORAL COMMITTEE A—Mr. G. W. LEAK, V.M.H., in the Chair, and sixteen other members present.

Awards recommended:

Silver-gilt Flora Medal

To Messrs. Blackmore & Langdon, Bath, for an exhibit of Delphiniums and other herbaceous plants.

Silver-gilt Banksian Medal

To Messrs. Edward Webb & Sons (Stourbridge), Ltd., Stourbridge, for an exhibit of Larkspurs.

Silver Flora Medal

To Queenswood School (gr. Mr. C. H. Symonds), Hatfield, for an exhibit of Pelargoniums.

Silver Banksian Medal

To Messrs. Frank Cant & Co., Ltd., Colchester, for an exhibit of Roses.
To Messrs. Holmesdale Nurseries, Nutfield, for an exhibit of Pelargoniums.
To Messrs. E. W. Stedman, Ltd., Longthorpe, for an exhibit of Roses.

Flora Medal

To Messrs. B. R. Cant & Sons, Ltd., Colchester, for an exhibit of Roses.
To Messrs. Thomas Carlile, Ltd., Twyford, for an exhibit of herbaceous plants.
To Messrs. Hollamby's Nurseries, Groombridge, for an exhibit of Pelargoniums.
To Messrs. Kelway & Son, Ltd., Langport, for an exhibit of Paeonies and Delphiniums.
To Mr. E. B. Le Grice, North Walsham, for an exhibit of Roses.
To Messrs. Mortlock Bros., Langley, for an exhibit of Pelargoniums.
To Messrs. M. Prichard & Sons, Ltd., Christchurch, for an exhibit of herbaceous plants.
To Messrs. Telston Nurseries, Otford, for an exhibit of Pelargoniums.

Banksian Medal

To Messrs. The Caledonian Nurseries, Rainham, for an exhibit of Pelargoniums.
To Messrs. Laxton Bros. (Bedford), Ltd., Bedford, for an exhibit of Roses.
To Messrs. R. & E. Ratcliffe, Chilton, for an exhibit of Roses.
To Mr. F. G. Read, Deopham, for an exhibit of *Chrysanthemum maximum* varieties.
To Messrs. Read's Hybridizing Nurseries, Hockley, for an exhibit of Alstroemerias and *Chrysanthemum maximum* varieties.
To Mr. Thos. Robinson, Nottingham, for an exhibit of miniature Roses.

Selected for trial at Wisley

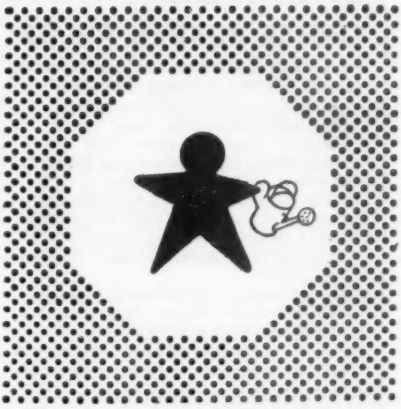
Hemerocallis 'Kontiki,' from A. T. Barnes, Esq., Bedford.
Hemerocallis seedlings RR/1; GB/1; RA/S; PB/1; LY/4, from N. Leslie Cave, Esq., Thames Ditton.
Zonal Pelargonium 'Rocdale Glory,' from County Borough of Brighton, Parks and Gardens Dept., Moulsecoomb Place, Brighton.

To be seen again

Rose 'Fred Howard,' from Messrs. Laxton Bros. (Bedford), Ltd., Bedford.

Other Exhibits

Anemones and Lavenders from Mr. C. Newberry, Knebworth.
Chrysanthemum maximum seedling from W. Firkins, Esq., Bromyard, Hereford.
Chrysanthemum maximum seedling from Mr. F. G. Read, Deopham.
Herbaceous plants from Messrs. Wakeley Bros. & Co., Ltd., North Mymms.
Violas and Roses from Mr. C. A. Jardine, Feltham.



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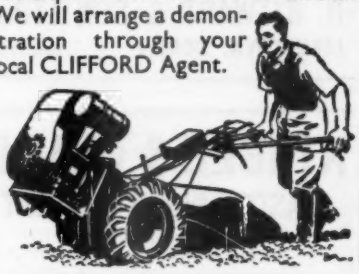

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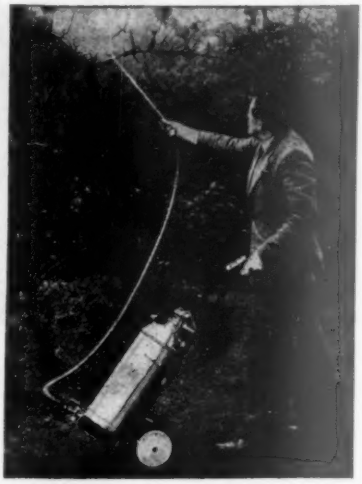

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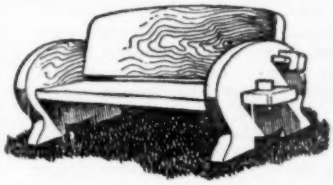

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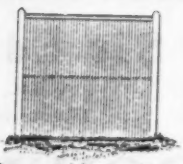

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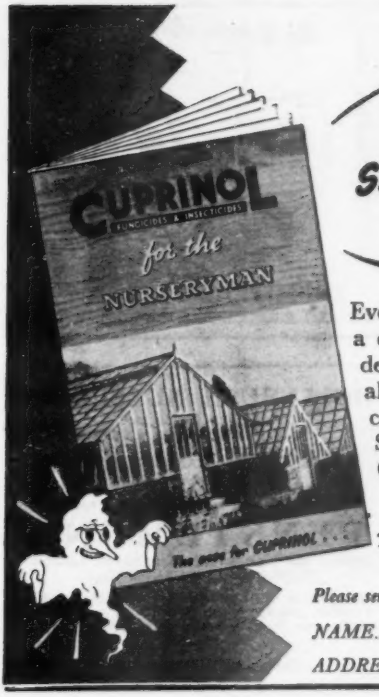

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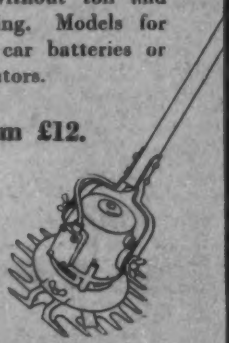

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